

JOURNAL

OF THE

AMERICAN VETERINARY MEDICAL ASSOCIATION

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91st Annual Meeting, Seattle, August 23-26, 1954

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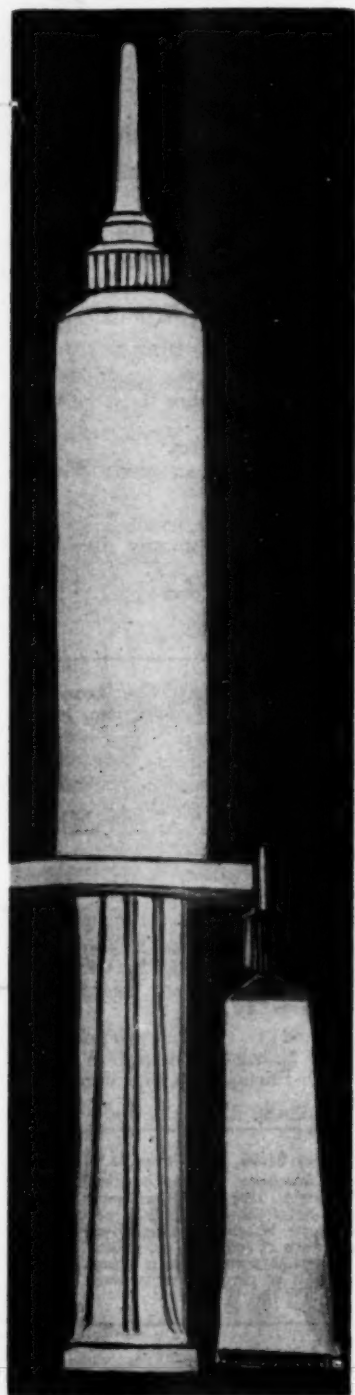
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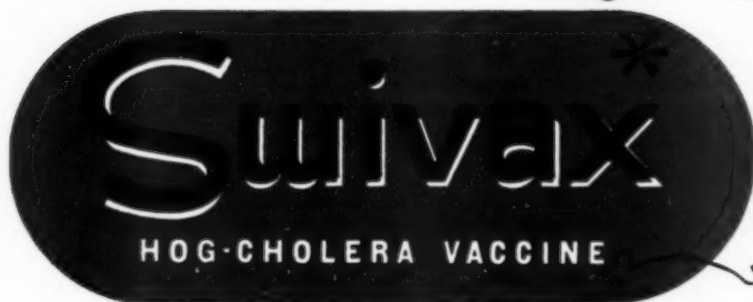
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AVMA ★ Report

--- Veterinary Medical Activities ---

★ The Council on Education held its regular spring meeting at AVMA headquarters on May 24. Members present were Drs. N. W. Pieper, chairman, R. E. Rebrassier, secretary, I. B. Boughton, S. W. Haigler, W. E. Jennings, and E. E. Slatter. Drs. G. A. Edge and M. S. Shahan were unable to attend.

On May 25, representatives of the Council met with representatives of the Councils on Education of the American Medical Association, the American Dental Association, and the Association of American Medical Colleges for discussion of accreditation activities in the health professions.

★ ★ ★

★ President J. A. McCallam, during June, attended and took part in the programs of the following meetings: South Carolina V.M.A., Charleston, June 18-19; A.M.A. Council on National Emergency Medical Service, San Francisco, June 20; A.M.A. House of Delegates opening session, San Francisco, June 21; California V.M.A. San Diego, June 21-23; Bexar County (Texas) V.M.A., San Antonio, June 25; Veterinary R.O.T.C. Cadets, Fort Sam Houston, June 26.

On June 30, he attended a meeting of representatives of Executive Board District II (Pennsylvania, Maryland, New Jersey, District of Columbia) in Ocean City, Md. Others present included Dr. S. F. Scheidy, Executive Board member from District II, Assistant Executive Secretary H. E. Kingman, Jr., the secretaries of the constituent state associations in the District, and the delegates and alternates to the AVMA House of Representatives.

★ ★ ★

★ On May 15, President McCallam attended a meeting and banquet of the student chapter at the College of Veterinary Medicine, University of Illinois, Urbana. During his talk, he presented to the chapter officers its charter as an affiliate of the AVMA (see picture in the News Section of this issue).

★ ★ ★

★ President-Elect A. H. Quin also had a busy month, taking part in the programs of the Kansas State College Veterinary Conference in Manhattan, June 4-5; the Georgia V.M.A., Albany, June 13-15; the Michigan V.M.A., Charlevoix, June 18-19; the North Dakota V.M.A., Fargo, June 20-21.

★ ★ ★

★ Assistant Executive Secretary Kingman attended the recognition banquet of the Ohio State University Student Chapter held May 15, 1954, and also spoke to the Washington State Student Chapter at Pullman, Wash., on May 20, 1954.

★ ★ ★

★ The U.S.D.A. Advisory Committee on Vesicular Exanthema met in Washington, D.C., June 4, 1954. H. E. Kingman, Jr., AVMA representative to this committee attended the meeting.

★ ★ ★

★ The AVMA Emergency Advisory Committee (Drs. W. R. Krill, chairman, C. D. Van Houweling, M. R. Clarkson, J. B. Engle, W. R. Hinshaw, Frank O. Todd, Brig. Gen. J. L. Hartman, and Brig. Gen. Wayne O. Kester) met in Washington, D.C., May 9 to discuss matters related to civil defense, procurement and assignment of veterinary personnel, and utilization of veterinary manpower should this country be faced with total mobilization. President-Elect A. H. Quin and Assistant Executive Secretary Kingman met with the Committee.

★ ★ ★

★ The AVMA Special Committee on Motion Pictures and TV (see June JOURNAL, AVMA Report, adv. p. 8) met in Chicago, May 26-27, and the AVMA Special Committee on Graduates of Foreign Veterinary Colleges (see March JOURNAL, AVMA Report, adv. p. 8) met at Association headquarters, June 16.



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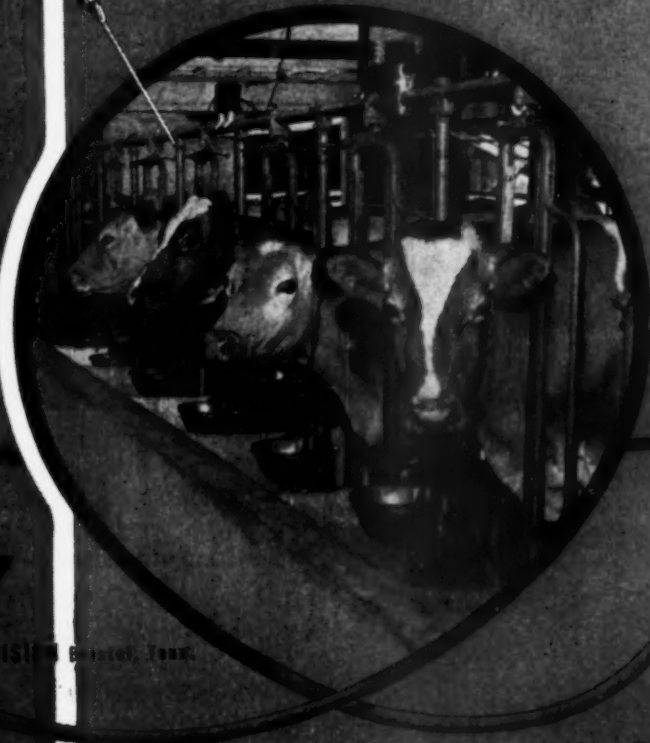
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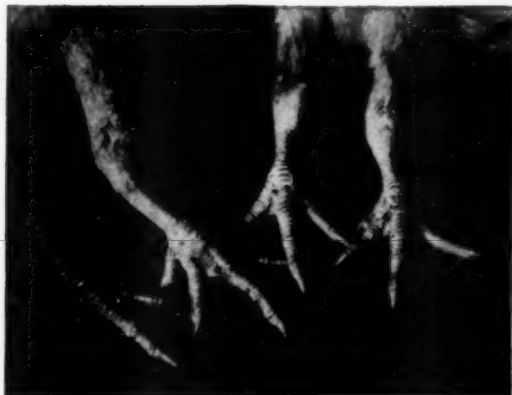


Photo above shows encrustations at corners of mouth and granular condition of eyelids in pantothenic acid deficient chick.

Photo at left shows dermatitis about feet and hocks, and cracks between the toes. *Photographs, courtesy of Michigan State College.*

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... first to introduce to the veterinary profession an effective therapeutic agent against infectious canine hepatitis.

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Distemperoid

... first live biologically altered virus vaccine ever to be produced for canine was made available by Fromm in 1939.

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... first to introduce a single dose prophylactic agent against canine hepatitis in an oil suspension to retard absorption (supplied in plastic disposable syringe.)

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... first to produce a one dose prophylactic agent against both canine distemper and infectious canine hepatitis (supplied in plastic disposable syringe.)



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When local anesthesia
must be **QUICK** and
of **LONG** duration

... reach for Xylocaine, the anesthetic well-established among physicians and dentists

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For the fourth consecutive year Allied Laboratories, in cooperation with the Radio Corporation of America, will provide "closed circuit" televised surgical and laboratory techniques at the meeting of the American Veterinary Medical Association: Olympic Hotel, Seattle, August 23-26, 1954.

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AT THE A. V. M. A.**

televised surgery



It is with pleasure that we invite you, once again, to "look over the surgeon's shoulder" during these operations.

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bactericidal to the majority of organisms found in surface infections—effective in pus & blood—soluble in wound exudates—stable—nonirritating—no interference with phagocytosis or healing

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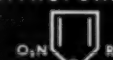
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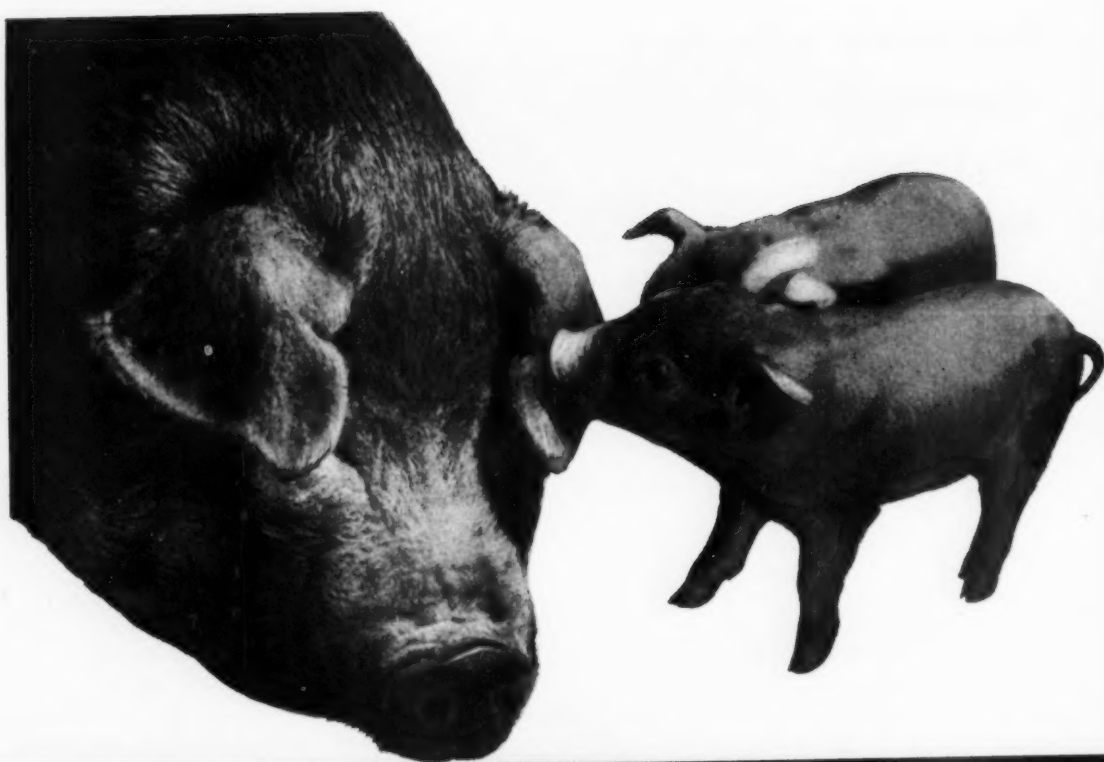


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Prescribed for systemic or local broad-spectrum antibiotic therapy in all species of domestic animals, young and old. For use in the office, the hospital or the field; excellent for dispensing. Proved in a wide range of diseases, including hemorrhagic septicemia, foot rot, anthrax, leptospirosis, mastitis, pink-eye, fetulosis withers, pneumonia, chronic respiratory disease of poultry, blue ear, b. hemimittis, scour, peritonitis, nephritis, yersinia, etc.

**Terramycin is
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Rids animals of ticks, fleas, lice,
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their hair. Not injurious to wounds
or skin abrasions.

Safe!

Will not contaminate human or ani-
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Safe!

Contains no DDT or any of the
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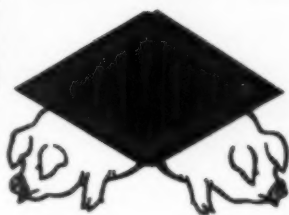
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UNLIKE CODEINE—

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► Indicated for the relief of kennel cough, and coughs associated with tonsillitis, laryngitis, bronchitis, distemper and like conditions.



Advertised to your clients in page-dominating space in Dog World.

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FORT DODGE LABORATORIES, INC., Fort Dodge, Iowa

Journal of the American Veterinary Medical Association

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VOL. 125

JULY, 1954

No. 928

The Seattle Meeting

A Message from President McCallam

ON TO SEATTLE for the Ninety-First Meeting of the American Veterinary Medical Association, Aug. 23-26, 1954. This is the year and the time to take that long-planned, leisurely trip to the great Northwest. Along the several routes one may choose to travel, going and returning from points east and south, are many places of historical and scientific interest, as well as scenic beauty. Then, for those who desire to extend their trip, there are Alaska, Canada, and Hawaii where all will be welcome and there is much of interest to be seen.

Everything possible has been and is being done to make our stay in Seattle one long to be remembered with pleasure, including special weather arrangements. We have been advised the temperature will be moderate during the day and the nights cool. Seattle, aside from the great natural beauty of the immediate surrounding area, offers much of interest for visitors, such as the floating bridge, the great locks, and the University of Washington. Then, should one desire, fishing, boat rides, and other forms of entertainment or diversion are available.

The features mentioned in the preceding paragraph are only incidental to the purpose of the convention. They help in keeping one fit, mentally and physically, for the business of the Association and the important scientific program. The latter embraces all fields of veterinary medicine. The Program Committee and the Section Officers have been diligent in preparing a program

on the professional problems of today. The presentations will be made by veterinarians and other scientists outstanding in their respective fields, and their contributions will be of current, practical, and scientific



President J. A. McCallam

value. A closed television circuit again will be in operation, and an important adjunct of the section meetings. I believe all who are privileged to attend the ninety-first AVMA convention will come away well rewarded.

On to Seattle!

AVMA Officers, 1953-1954

President—J. A. McCallam, Washington, D. C.
President-Elect—A. H. Quin, Kansas City, Mo.
First Vice-President—J. Gordon Anderson, Calgary, Alta.
Second Vice-President—P. G. MacKintosh, Yakima, Wash.
Third Vice-President—J. F. Shigley, State College, Pa.
Fourth Vice-President—J. L. McAuliff, Cortland, N. Y.
Fifth Vice-President—J. B. Engle, Summit, N. J.
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(Year in which terms expire is shown in parentheses)

Chairman—Edwin Laitinen (1957), West Hartford, Conn.
District I—T. Lloyd Jones (1957), Guelph, Ont.
District II—S. F. Scheidy (1958), Drexel Hill, Pa.
District III—L. M. Hutchings (1958), Lafayette, Ind.
District IV—R. S. Sugg (1954), Auburn, Ala.
District V—C. F. Schlotthauer (1955), Rochester, Minn.
District VI—J. M. Arburua (1956), San Francisco, Calif.
District VII—E. E. Wegner (1955), Pullman, Wash.
District VIII—W. G. Brock (1956), Dallas, Texas.
District IX—Edwin Laitinen (1957), West Hartford, Conn.
District X—W. R. Krill (1954), Columbus, Ohio.

EX OFFICIO MEMBERS OF EXECUTIVE BOARD

J. A. McCallam (1955), Washington, D. C.
A. H. Quin (1956), Kansas City, Mo.
W. L. Boyd (1954), St. Paul, Minn.

Board of Governors

Edwin Laitinen, *Chairman*; J. A. McCallam; A. H. Quin.

Executive Committee — AVMA House of Representatives

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J. W. Harrison, Colorado
J. L. Hartman, District of Columbia*
A. A. Husman, North Carolina
H. E. Kingman, Sr., Georgia
R. C. Snyder, Pennsylvania
C. C. Von Gremp, Georgia

*Will retire July 31, 1954.

House of Representatives

(As of June 19, 1954)

	<i>Votes</i>	<i>Delegate</i>	<i>Alternate</i>
Alabama	(3)	McKenzie Heath	Joe L. Sledge
Arizona	(2)	Keith Lassen	R. M. Carter
Arkansas	(1)	W. L. Thomas	Hubert Shull, Jr.
California	(5)	Charles J. Parshall	Fred B. Pulling, Jr.
Colorado	(3)	John W. Harrison	Paul D. Pattridge
Connecticut	(2)	Niel W. Pieper	Irving R. Vail
Delaware	(1)	E. L. Symington	C. C. Palmer
Dist. of Columbia	(2)	W. T. S. Thorp	E. R. Goode, Jr.
Florida	(3)	Jack O. Knowles	Karl R. Owens
Georgia	(3)	C. C. Von Grep	Thomas J. Jones
Idaho	(2)	Arthur P. Schneider	L. V. Ruebel
Illinois	(5)	A. G. Misener	A. E. Bott
Indiana	(4)	Homer D. Carter	G. W. Gillie
Iowa	(5)	C. D. Lee	F. B. Young
Kansas	(3)	F. L. Hart	J. F. Knappenberger
Kentucky	(2)	Jacob A. Winkler	F. M. Kearns
Louisiana	(2)	W. T. Oglesby	Frank B. Wheeler, Jr.
Maine	(2)	Alfred E. Coombs	J. Franklin Witter
Maryland	(2)	L. J. Poelma	M. H. Jacobs
Massachusetts	(3)	L. A. Paquin	B. S. Killian
Michigan	(5)	Paul V. Howard	
Minnesota	(5)	Fred W. Gehrman	C. H. Wetter
Mississippi	(2)	Charles H. Horne	Bob Henry Mayo
Missouri	(3)	Paul L. Spencer	O. E. Ellis
Montana	(2)	G. A. Morrison	Arthur F. Hayes
Nebraska	(3)	W. I. Nelson	P. L. Cady
Nevada	(1)	Joseph B. Key	W. F. Fisher
New Hampshire	(2)	Eric Simmons	John H. Westfall
New Jersey	(3)	J. R. Porteus	Robert P. Lawrence
New Mexico	(1)	Tom Evans	
New York	(5)	Frederic F. Fehr	Earl S. Markham
North Carolina	(3)	A. A. Husman	M. M. Leonard
North Dakota	(2)	D. A. Wire	D. F. Eveleth
Ohio	(5)	Fred J. Kingma	R. E. Rebrassier
Oklahoma	(3)	C. H. McElroy	E. R. Walker
Oregon	(2)	C. A. Bjork	E. L. Henkel
Pennsylvania	(5)	Raymond C. Snyder	J. Robert Brown
Rhode Island	(1)	J. W. Armstrong	Ralph Povar
South Carolina	(2)	M. R. Blackstock	B. C. McLean
South Dakota	(2)	D. L. Cotton	O. H. V. Stalheim
Tennessee	(2)	H. E. Hill	R. A. Gathmann
Texas	(5)	Paul B. Blunt	Melvin R. Calliham
Utah	(2)	R. W. Gold	Hugh Hurst
Vermont	(2)	John Canty	C. T. Whitney
Virginia	(3)	T. P. Rowe	
Washington	(3)	Peter G. MacKintosh	T. Robert Phelps
West Virginia	(1)	Victor H. Miller	Elvin R. Coon
Wisconsin	(4)	Rolland O. Anderson	Charles R. Curtis
Wyoming	(1)	G. H. Good	Peter E. Madsen
Air Force	(2)	Wayne O. Kester	Jack H. Hempy
Army	(2)	J. L. Hartman	William E. Jennings
NAFV*	(2)	L. T. Hopkins	F. W. Crawford
Canal Zone	(1)		
Puerto Rico	(1)	O. A. Lopez-Pacheco	Enrique Toro, Jr.
Alberta	(2)	J. Gordon Anderson	J. E. Rattray
British Columbia	(2)	Gordon Davis	
Manitoba	(2)	Harry H. Ross	W. R. Giesbrecht
New Brunswick	(1)	Eric S. Hicks	Leslie E. McQuinn
Nova Scotia	(1)	Ryland M. Archibald	L. G. Neily
Ontario	(5)	Robert H. Wright	H. R. Potter
Quebec	(3)		J. D. Nadeau
Saskatchewan	(2)	J. S. Fulton	Elmer L. Brown
Cuba	(5)	Roberto Parajon	Angel M. Morales

*National Association of Federal Veterinarians.

The 1954 Session—Official Call

The Ninety-First Annual Meeting of the American Veterinary Medical Association will be held in Seattle, Wash., Aug. 23-26, 1954. The Olympic Hotel will be headquarters for convention registration, executive sessions, commercial and scientific exhibits, some of the section meetings and group conferences. The adjoining Metropolitan Theatre will be used for general sessions, large section meetings, and TV demonstrations.

Executive sessions of the Committee on Budget, Board of Governors, and Executive Board will be held beginning Tuesday, August 17, and running through Friday, August 20.

The House of Representatives will convene on Saturday, August 21, at 9:30 a.m. Delegates should time their arrival for not later than Friday night, August 20, if possible.

The Opening Session of the convention is scheduled for 9:00 a.m., Monday, August 23, in the Metropolitan Theatre. Following the usual ceremonies, formal addresses and presentation of awards, nominations of officers for the ensuing year will take place. A president-elect, five vice-presidents, and a treasurer are to be elected. If a ballot election is necessary, the polls will be set up in the executive secretary's office on Tuesday, August 24.

There will be joint installation ceremonies for AVMA and Auxiliary officers at the Closing Session on Thursday, August 26.

The Women's Auxiliary will hold official sessions of its executive board and house of representatives, also its annual business meeting, in the

Roosevelt Hotel which has been selected as a subsidiary headquarters for these functions.

Section meetings will be held in the Olympic Hotel and the Metropolitan Theatre beginning Monday afternoon, August 23, and continuing through Thursday morning, August 26.

A number of group meetings, special conferences, and meetings of related organizations will be held throughout the week.

A pre-convention conference on Public Relations will be held on Sunday, August 22, starting at 9:00 a.m.

Convention registration will open Sunday morning, August 22, in the Assembly Lounge of the Olympic and continue daily thereafter.

Scientific exhibits and commercial displays will be housed in the Assembly Lounge and Spanish Ballroom of the Olympic and will open on Monday, August 23, at 8:30 a.m. Exhibit hours will be 8:30 a.m. to 5:00 p.m., daily.

The President's Reception and Dance, followed by special entertainment, will be held on Wednesday evening, August 25, in the Seattle Auditorium. The alumni dinners will precede this event.

Headquarters of the AVMA and Committee on Local Arrangements will be located in Parlor 1 on the lower lobby level.

This issue of the JOURNAL contains practically complete details of the Seattle program. Members are urged to study it for information about the various events of professional interest and the entertainment which will be featured at the 1954 meeting.

Engineer Mountain in West Taku, Alaska.



Executive and Legislative Sessions (Olympic Hotel)

Tuesday, August 17

- 3:00 p.m. Committee on Budget, first session — *Parlor D.*
7:30 p.m. Committee on Budget, second session — *Parlor D.*

Wednesday, August 18

- 9:00 a.m. Board of Governors, first session — *Parlors E and F.*
2:00 p.m. Board of Governors, second session — *Parlors E and F.*
7:30 p.m. Board of Governors, third session — *Parlors E and F.*

Thursday, August 19

- 9:00 a.m. Executive Board, first session — *Parlor B.*
2:00 p.m. Executive Board, second session — *Parlor B.*
7:30 p.m. Executive Board, third session — *Parlor B.*

Friday, August 20

- 9:00 a.m. Executive Board, fourth session — *Parlor B.*
2:00 p.m. Advisory Committee — House of Representatives — *Parlor B.*

Saturday, August 21

- 9:30 a.m. House of Representatives, first session — *Junior Ballroom.*
2:00 p.m. House of Representatives, second session — *Junior Ballroom.*
7:00 p.m. House of Representatives, third session (if necessary) — *Junior Ballroom.*

Thursday, August 26

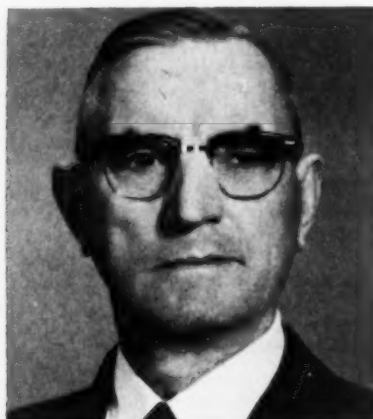
- 2:00 p.m. Executive Board, final session — *Parlor A.*

St. Mary Lake, Little Chief Mountain, and the highway in Glacier National Park.



Message from the General Chairman, Committee on Local Arrangements

The veterinarians of this region are highly honored to be the hosts at the Ninety-First Annual Meeting of the American Veterinary Medical Association. This is only the second time in AVMA history that we have been so privileged. In



Dr. E. E. Wegner, General Chairman

1925, the host city was Portland, Ore., and the states of the Northwest and the province of British Columbia assumed the responsibilities for that meeting. Now, again, this region is honored but the host city is Seattle.

This region is especially qualified as a convention site because of the many natural attractions that induce maximum attendance, a spot ideal for the scientific sessions with a delightful summer climate that the entire family will enjoy as a vacation spot.

Seattle is located in Puget Sound which lies between the Cascade Mountains on the east and the Olympics on the west. Both ranges are snow-

covered during much of the year and give rise to beautiful mountain streams; both are heavily timbered, yet easily accessible by splendid highways.

Puget Sound, an immense water inlet, extends 100 miles inland from the Pacific Ocean, with innumerable bays and myriads of islands for the enjoyment of vacationists. Both the waters of Puget Sound and the many mountain streams abound in game fish. The Northwest is also the terminus of two great rivers, the Columbia between Washington and Oregon during the last 200 miles of its course, and the Fraser River in British Columbia.

And, if our national Association meeting is not sufficient attraction for our members and their families, there are others for them to enjoy; boat trips on beautiful Lake Washington or Puget Sound; or, take a few hours off and visit the beautiful Canadian cities of Victoria and Vancouver, all within easy reach. If you have a few days to spare, you may want to take a cruise to Alaska.

If interested in the Northwest's educational facilities, plan to stop at Pullman and see the veterinary college at Washington State College, the alma mater of many of the veterinarians of this region. See, also, the Grand Coulee Dam on the Columbia River, one of the largest in the nation, where tremendous power is developed, and which acts as the heart of the great Columbia Basin irrigation project, where over a million acres of arid land is being put under irrigation, and made abundantly productive.

Our Committee on Local Arrangements is well organized and actively working to provide for the needs of the scientific sessions and for your enjoyment during your stay.

The Northwest welcomes you. Attend the convention and plan to enjoy a vacation here.

s/E. E. Wegner, *General Chairman,
Committee on Local Arrangements.*



Dr. J. C. Kraft (left), Chairman, Executive Committee: Dr. P. M. Hinze, Vice-General Chairman, Dr. D. W. Clarke, General Secretary.

Entertainment and Golf



Dr. P. S. Millard

Reception and Hospitality



Dr. C. R. Griffith

Garages, Parking, Airports



Dr. W. H. Gustafson

Alumni Dinners



Dr. O. A. Anderson

Hotels and Housing



Dr. R. B. Watkins

Chairmen, Local Subcommittees

AVMA Convention

Seattle, August 23-26, 1954

Exhibits



Dr. H. E. Bean

Registration and Information



Dr. G. W. McNutt

Television



Dr. R. H. Fuller

Meeting Rooms and Equipment



Dr. Floyd Dixon

Publicity and Public Relations



Dr. F. C. Cummings

Committee on Local Arrangements Ninety-First Annual Meeting

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P. M. Hinze, *Vice-General Chairman*
D. W. Clarke, *Secretary*

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O. A. Anderson	R. B. Watkins
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D. W. Clarke	Mrs. O. A. Anderson
F. C. Cummings	Mrs. D. W. Clarke
Floyd Dixon	Mrs. R. H. Fuller
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C. R. Griffith	Mrs. T. J. Guilfoil
W. H. Gustafson	Mrs. J. C. Kraft
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G. W. McNutt	Mrs. T. R. Phelps

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Registration and Information

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R. L. Burch
Edward Diamond
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W. J. Flynn
C. E. Moon
S. E. Philips
C. A. Schneider

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C. G. Andrist
C. M. Bemis
F. W. Duey
J. R. Gorham
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W. J. Wegert

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R. A. Harcus
R. T. Hostetler
J. R. Lucas
G. C. Mank
William Menaul
P. J. Pfarr
R. C. Toole

Entertainment and Golf

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O. L. Bailey, *Co-Chairman*
R. H. Bradbury
R. T. Carey
F. F. Christofferson
R. L. Clinton
C. W. Doney
R. E. Ebright
L. H. Gaw
E. E. Grinstead
H. A. Hilton
G. D. Hopkins
R. S. Layton
M. O. Mulqueeney
S. W. Underwood
L. E. Wallace
H. E. Warsinske
R. R. Weller

Garages, Parking, and Airports

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R. L. Herriott
D. A. McGill
C. I. Peckenpaugh
W. G. Rightmire
W. L. Ritter
C. M. Saunders
G. J. Venema

Publicity and Public Relations

F. C. Cummings, *Chairman*
Irwin Erickson
V. P. Ferrucci

M. H. Jones
W. C. Keck
J. E. McCoy
R. G. MacKintosh
W. I. Mendenhall
J. H. Miller
J. A. Ryncarz
J. O. Virgin
R. E. Watts

Television

R. H. Fuller, *Chairman*
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J. R. Dodge
E. E. Engel
S. A. Fuller
W. F. Harris
P. A. Klavano
T. R. Kurtz
George Migaki
H. B. Mitchell
O. L. Montgomery
J. E. Priebe
R. L. Prior
E. T. Rhodefer
A. C. Slater
G. D. Smith
G. R. Spencer
G. W. Staggs, Jr.
C. O. Stirling
E. S. Taylor

Alumni Banquets

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C. E. Eakin
F. R. Fields

W. S. Green
T. J. Guilfoil
B. A. Kadaner
L. L. Newman
Bernice E. Stickrod
C. N. Thackeray
R. D. Turk

Reception and Hospitality

C. R. Griffith, *Chairman*
J. D. Barak
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A. E. Crouse
L. A. Dehner
J. A. Follinsbee
R. I. Ford
E. M. Gildow
W. R. Gunn
J. C. McMillin
P. G. MacKintosh
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M. L. Olsen

K. J. Peterson
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C. O. Seward
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John Sheehan
F. M. Shigley
L. B. Snyder
G. W. Staggs, Sr.
H. F. Wilkins
G. M. Wright

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Colleges*

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W. W. Armistead, Texas
C. F. Clark, Michigan
Floyd Cross, Colorado
Robert Graham, Illinois
A. H. Groth, Missouri
W. A. Hagan, Cornell
D. E. Jasper, California

T. L. Jones, Ontario
T. J. Jones, Georgia
W. T. S. Thorp, Minnesota
W. R. Krill, Ohio
E. E. Leasure, Kansas
I. A. Merchant, Iowa
H. W. Orr, Oklahoma
E. C. Stone, Washington
R. S. Sugg, Alabama
T. S. Williams, Tuskegee

Hotels and Housing

R. B. Watkins, *Chairman*
K. L. Binkley
R. K. Brabrook
H. S. DuBois
G. D. Duby
M. R. Hales
F. M. Herr
M. D. Nicholls
T. R. Pelley
P. A. Wesen

Smith Tower in Seattle.



Women's Activities

Mrs. D. W. Clarke, *Chairman*

Mrs. T. R. Phelps, *Co-Chairman*

Mrs. O. A. Anderson, *Secretary*

Reception and Tea

Mrs. J. C. Kraft, *Chairman*
 Mrs. H. A. Burke
 Mrs. F. C. Cummings
 Mrs. Irwin Erickson
 Mrs. W. H. Gustafson
 Mrs. B. A. Kadaner
 Mrs. W. C. Kilpatrick
 Mrs. J. R. Lucas
 Mrs. P. G. MacKintosh
 Mrs. R. G. MacKintosh
 Mrs. G. C. Mank
 Mrs. F. M. Shigley
 Mrs. A. C. Slater
 Mrs. G. W. Staggs, Jr.
 Mrs. R. G. Torney

Luncheon

Mrs. T. R. Kurtz, *Chairman*
 Mrs. R. L. Prior, *Co-Chairman*
 Mrs. C. W. Doney
 Mrs. E. M. Gildow
 Mrs. R. L. Herriott
 Mrs. H. A. Hilton
 Mrs. D. D. House
 Mrs. W. C. Keck
 Mrs. D. K. Larson
 Mrs. George Migaki
 Mrs. C. I. Peckenpaugh
 Mrs. T. R. Phelps
 Mrs. E. T. Rhodefer
 Mrs. J. D. Stevens
 Mrs. R. C. Toole
 Mrs. J. O. Virgin
 Mrs. P. A. Wesen

Reception and Hospitality

Mrs. C. R. Griffith, *Chairman*
 Mrs. E. E. Wegner, *Co-Chairman*
 Mrs. J. D. Barak

Mrs. G. F. R. Barton
 Mrs. H. M. Beckmann
 Mrs. F. K. Bracken
 Mrs. R. T. Carey
 Mrs. L. B. Carter
 Mrs. R. E. Clarke
 Mrs. E. W. Coon
 Mrs. A. E. Crouse
 Mrs. R. C. Derrer
 Mrs. E. R. Derflinger
 Mrs. W. M. Dickson
 Mrs. L. F. Eakin
 Mrs. J. L. Ellis
 Mrs. E. E. Engel
 Mrs. R. I. Ford
 Mrs. S. D. Gates
 Mrs. J. B. Harrison
 Mrs. J. G. Jervis
 Mrs. W. C. Keck
 Mrs. G. H. Keown
 Mrs. R. V. Lewis
 Mrs. Andrew Lloyd
 Mrs. M. D. McKenzie
 Mrs. Hadleigh Marsh
 Mrs. O. R. Menig
 Mrs. P. S. Millard
 Mrs. L. L. Newman
 Mrs. T. R. Phelps
 Mrs. W. E. Ruggles
 Mrs. J. D. Stevens
 Mrs. E. A. Tunnickliff
 Mrs. R. B. Watkins
 Mrs. R. R. Younce

Registration and Information

Mrs. T. J. Guilfoil, *Chairman*
 Mrs. H. E. Bean, *Co-Chairman*
 Mrs. J. F. Bender
 Mrs. L. A. Dehner
 Mrs. J. R. Dodge

Mrs. D. E. Ferguson
 Mrs. E. M. Gildow
 Mrs. William Green
 Mrs. C. E. Hagler
 Mrs. R. T. Hostetler
 Mrs. R. S. Layton
 Mrs. J. A. McCurdy
 Mrs. W. I. Mendenhall
 Mrs. M. L. Miller
 Mrs. M. D. Nicholls
 Mrs. R. L. Prior
 Mrs. Ethel Root
 Mrs. E. S. Taylor
 Mrs. W. J. Wegert

Teenagers

Mrs. O. A. Anderson, *Chairman*
 Mrs. Floyd Dixon, *Co-Chairman*
 Mrs. P. R. Des Rosiers
 Mrs. R. E. Ebright
 Mrs. M. E. Fishback
 Mrs. W. J. Flynn
 Mrs. L. M. Gustafson
 Mrs. William Maxwell
 Mrs. M. O. Mulqueeney
 Mrs. J. E. Priebe
 Mrs. R. V. Strandberg

Sub-Teenagers

Mrs. R. H. Fuller, *Chairman*
 Mrs. R. A. Harcus, *Co-Chairman*
 Mrs. K. L. Binkley
 Mrs. Edward Diamond
 Mrs. M. R. Hales
 Mrs. A. C. Jerstad
 Mrs. William Menaul
 Mrs. O. L. Montgomery
 Mrs. A. J. Ryncarz
 Mrs. D. H. Smith
 Mrs. H. E. Warsinske



Mrs. D. W. Clarke (left), General Chairman; Mrs. T. R. Phelps, General Co-Chairman; Mrs. O. A. Anderson, Secretary.

Message from the Chairman of the Committee on Women's Activities

Have you ever been to the great Northwest? We women of Washington State are greatly honored to be able to play host to the women of the AVMA for the Ninety-First Annual Meeting.

Just to jog your memory, Seattle is located in Puget Sound, an arm of the Pacific Ocean, between the Cascade Mountains on the east and the Olympic range on the west. There are two fresh-water lakes within the city of Seattle—Lake Union and Green Lake—and a third, 26-mile-long Lake Washington, forms our eastern boundary.

It is impossible to put Seattle in a few words—you must see it to believe it. Our committees are formulating plans so that you and your family may take advantage of as many things as possible during the convention.

On Monday afternoon, August 23, the tea and reception will be held in the beautiful Olympic Hotel, the headquarters for the convention.

On Tuesday, August 24, a luncheon will be given in the Masonic Temple. A preview of Northwest fashions will be shown.

Then, of course, no AVMA convention is complete without the alumni dinners, which will be held on Wednesday evening, followed by the President's Reception and Dance, with special entertainment, in our big civic auditorium.

We will have a complete list of many extra things for you to do and see which you may choose, such as visiting the University of Washington Arboretum which has over 2,000 varieties of trees, shrubs, and plants from all parts of the world.

And—our pride and joy of the Northwest—a

real honest-to-goodness Indian-style salmon bake on one of our most beautiful beaches. We guarantee that this will be an evening you will long remember.

Don't let the children keep you at home. Plans are being formulated to make sure your teenagers and sub-teenagers will also have a memorable time.

This is our cordial invitation to you to attend the convention in Seattle, meet old friends, and enjoy the Northwest at its best.

s/Mrs. Don W. Clarke, *General Chairman,
Committee on Women's Activities.*

The Weather and Clothes in Seattle

If the weatherman will cooperate and give us a normal summer, daytime will require cottons with a light weight sweater in your room, or a cotton or silk suit of summer material. In the evenings, with a breeze off Puget Sound, a warm sweater or jacket will be comfortable. The salmon bake will require warm clothing too.

Separates are worn a great deal in Seattle and stoles are handy to have if a cool breeze blows up unexpectedly.

For those who expect to tour the Northwest after the convention, the Olympic Peninsula, San Juan Islands, or Vancouver Island, tuck in warm clothes for evenings. For fishing on upper Vancouver Island, which should be excellent after the meeting (but fish, like the weather, can play tricks), men, women, and children alike should bring warm woollens and wind breakers as the fishing on Puget Sound is very cold.

s/(Mrs. T. R.) Mildred Phelps, *Co-Chairman.*

Committee on Women's Activities, AVMA Seattle Convention, Aug. 23-26, 1954



Front row (left to right)—Mesdames T. J. Guilfoil, Floyd Dixon, George Staggs, T. R. Kurtz, R. A. Marcus, H. E. Bean, O. A. Anderson, and D. W. Clarke. Back row—Mesdames C. R. Griffith, R. L. Prior, J. C. Kraft, R. H. Fuller, E. E. Wegner, and T. R. Phelps.

Message from the President of the Women's Auxiliary

Greetings and a very cordial invitation to all "veterinary women" to come to Seattle, Wash., in August, our convention city for 1954. The Women's



Mrs. Russell A. Runnells

Auxiliary to the AVMA will hold its Thirty-Seventh Annual Meeting in conjunction with the Ninety-First Annual Meeting of the AVMA.

Mrs. D. W. Clarke, Mrs. T. R. Phelps, and their women's activities committees are planning interesting and unusual entertainment for us.

We hope you will want to attend the business sessions of the Auxiliary—the house of representatives meeting, the annual business meeting, and the presidents' and secretaries' meeting. All of these are of general interest to our members and all are open to interested women.

The Opening Session of the AVMA convention on Monday morning, August 23, really sets the tempo for the entire convention. Attendance is desirable and all of you will feel repaid for your effort. Your newly elected officers will be installed at the Closing Session on Thursday morning, August 26. This joint installation ceremony is a fitting close to four very full days of business, inspiration, and entertainment.

s/(Mrs. Russell A.) Laura Runnells, *President*.

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Women's Auxiliary Officers

President—Mrs. R. A. Runnells, East Lansing, Mich.
 President-Elect—Mrs. L. R. Richardson, Ravenna, Ohio.
 First Vice-President—Mrs. E. N. Moore, Wooster, Ohio.
 Second Vice-President—Mrs. A. E. Coombs, Skowhegan, Maine.
 Third Vice-President—Mrs. L. H. Moe, Stillwater, Okla.
 Secretary—Mrs. C. M. Rodgers, Blandinsville, Ill.
 Treasurer—Mrs. C. C. Rife, Atlanta, Ga.
 Recorder, House of Representatives—Mrs. E. A. Woelffer, Oconomowoc, Wis.
 Retiring President—Mrs. H. S. MacDonald, Toronto, Ont.

Sub-Teenagers' Program

Monday, August 23

1:00 p.m. Tour of City: Lincoln Park, Alki Point, Boeing Airfield, Seward Park, University Arboretum, Museum of History and Industry, and University of Washington Campus.

Tuesday, August 24

10:00 a.m. Stories and Active Games.
 11:45 a.m. Sack Lunch.
 12:30 p.m. Trip to Movies.

Wednesday, August 25

9:30 a.m. Trip to Woodland Park and Tour of Zoo.
 12:00 noon Picnic Lunch in Park.
 1:00 p.m. Rides in Kiddyland.

Women's Program

Sunday, August 22

- 9:00 a.m. Budget Committee and Executive Board Meeting, Women's Auxiliary — *Room 214, Hotel Roosevelt.*
11:00 a.m. Registration Opens — *Olympic Hotel.*
1:30 p.m. Pre-Convention Conference on Public Relations — *Junior Ballroom, Olympic Hotel.*

Monday, August 23

- 8:30 a.m. Registration — *Olympic Hotel.*
8:30 a.m. Visit Commercial and Educational Exhibits — *Olympic Hotel.*
9:00 a.m. Attend Opening Session of the AVMA — *Metropolitan Theatre.*
3:00 p.m. to
5:00 p.m. Women's Tea and Reception — *Olympic Bowl, Olympic Hotel.*

Tuesday, August 24

- 8:30 a.m. Check on Credentials of Auxiliary Representatives — *San Juan Room, Hotel Roosevelt.*
9:00 a.m. House of Representatives, Women's Auxiliary (all interested women are invited) — *San Juan and Admiralty Rooms, Hotel Roosevelt.*
12:30 p.m. Annual Luncheon of Women's Auxiliary—*Masonic Temple.*

Wednesday, August 25

- 9:00 a.m. Annual Meeting of Women's Auxiliary — *San Juan and Admiralty Rooms, Hotel Roosevelt.*
1:00 p.m. This afternoon is open for individual choices.
2:00 p.m. Meeting of Presidents and Secretaries of Affiliated Auxiliaries (all interested women are invited) — *San Juan and Admiralty Rooms, Hotel Roosevelt.*
6:30 p.m. Alumni Dinners — *See bulletin board.*
9:00 p.m. President's Reception and Dance — *Civic Auditorium.*

Thursday, August 26

- 9:00 a.m. Closing Meeting of Executive Board of Women's Auxiliary — *Room 214, Hotel Roosevelt.*
12:15 p.m. Closing Session of the AVMA Ninety-First Annual Meeting — *Metropolitan Theatre.*
(Installation of AVMA officers and Women's Auxiliary officers.)

Teenagers' Program

Monday, August 23

- 2:00 p.m. to
5:00 p.m. Coketail Party—*Olympic Hotel.*

Tuesday, August 24

- a.m. Water Front Tour, including the Aquarium, Fire Boats, and Ye Old Curiosity Shop.

Wednesday, August 25

- p.m. Splash Party—*Colman Pool.*

AVMA Group Conferences and Meetings of Other Organizations

(All meetings will be held in the Olympic Hotel)

Sunday, August 22

- 9:00 a.m. Pre-Convention Conference on Public Relations — *Junior Ballroom.*
- 12:30 p.m. Pre-Convention Conference Luncheon — *Olympic Bowl.*
- 1:00 p.m. Association of Deans of American Colleges of Veterinary Medicine — *Parlor E.*
- 2:00 p.m. Veterinary Care of Laboratory Animals — *Room to be announced.*
- 5:30 p.m. Meeting of Delegates of the Student Chapters and Auxiliaries — *Olympic Bowl.*
- 6:30 p.m. American Veterinary Exhibitors Association, Inc. — *Junior Ballroom.*

Monday, August 23

- 12:00 noon American Animal Hospital Association — *Parlor B.*
- 12:00 noon American Association of Veterinary Anatomists — *Room to be announced.*
- 4:30 p.m. Conference of Public Health Veterinarians — *Room to be announced.*
- 4:30 p.m. Conference of Veterinary Radiologists — *Parlor D.*
- 4:30 p.m. Conference of Veterinary Physiologists and Pharmacologists — *Room to be announced.*
- 4:30 p.m. Phi Zeta Fraternity — *Room to be announced.*
- 5:00 p.m. American College of Veterinary Pathologists — *Parlor C.*
- 7:00 p.m. Conference of National and American Examining Boards — *Parlor A.*
- 7:30 p.m. National Association of Federal Veterinarians — *Parlor B.*
- 7:30 p.m. Conference of Editors — *Parlor D.*
- 8:00 p.m. American Board of Veterinary Public Health — *Room to be announced.*

Tuesday, August 24

- 4:30 p.m. Women's Veterinary Medical Association — *Parlor B.*
- 4:30 p.m. Conference of Zoo Veterinarians — *Room to be announced.*
- 4:30 p.m. Conference of Extension Veterinarians — *Room to be announced.*
- 7:00 p.m. Alpha Psi Fraternity — *Junior Ballroom.*
- 8:00 p.m. National Assembly of Chief Livestock Sanitary Officials — *Parlor B.*

Wednesday, August 25

- 11:00 a.m. Conference of Veterinary Parasitologists — *Parlor D.*

Thursday, August 26

- 7:30 a.m. Section Officers Breakfast — *Parlor A.*

Opening Session

Metropolitan Theatre

Monday, August 23, 9:00 a.m.

Music.

9:30 a.m.

Call to Order.—President James A. McCallam.

Invocation.—The Reverend Arthur Alan Vall-Spinosa, D.D., St. Thomas' Church, Medina, Wash.

The National Anthem.

Addresses of Welcome.—Welcome to State of Washington—The Honorable Arthur B. Langlie, Governor.

Welcome to City of Seattle—The Honorable Allan Pomeroy, Mayor.

Response.—Dr. Stanley E. Philips, Medford, Ore.

Greetings from Women's Auxiliary.—Mrs. R. A. Runnells, President, East Lansing, Mich.

Address.—Brig. Gen. J. A. McCallam (Ret.), President.

Announcements.—Dr. E. E. Wegner, General Chairman, Committee on Local Arrangements.

Presentation of Awards

By Dr. W. A. Young, *Chairman*, Special Committee on Humane Act Award: 1954 Humane Act Award.

By Brig. Gen. J. A. McCallam (Ret.), *Chairman ex officio*, Committee on Awards:

Twelfth International Veterinary Congress Prize.

Borden Award for 1954.

AVMA Award.

By Dr. Edwin Laitinen, *Chairman*, Executive Board:

Gold Key to Incoming President.

Service Scroll to Retiring President.

*Nomination of Officers.**

*If a ballot election is required (due to having more than one nomination for the respective offices), polls will be set up in the executive secretary's office in the Olympic Hotel on Tuesday, August 24.

Officers to be elected at Seattle are: president-elect, five vice-presidents, and treasurer. There will be joint installation ceremonies for AVMA and Auxiliary officers at the Closing Session on Thursday, August 26.

George Washington Memorial Bridge in Seattle.





H. L. Marsh, Princeton, Ill., Chairman

Section on General Practice

Monday, August 23, 1:30 p.m.

Metropolitan Theatre

First Session

- 1:30 Opening Remarks by Chairman.
Report of Secretary.
- 1:35 (1) The Use of Calcium Versenate in Heavy Metal Poisoning of Livestock.
L. W. Holm, Davis, Calif.
- 1:55 (2) Television—Clinical Briefs:
Lumbar Epidural Anesthesia in the Cow.
Harry Hardenbrook, Jr., Urbana, Ill.
Use of Strontium 90 in the Treatment of Epithelioma of the Cornea in Cattle.
J. D. Wheat, Davis, Calif.
Narrator—*J. F. Christensen, Davis, Calif.*
Epidural Anesthesia in the Pig.
Harry Hardenbrook, Jr.
- 2:15 (3) Effect of U.S.D.A. Reorganization on Federal Veterinary Service.
M. R. Clarkson, Washington, D. C.
- 2:35 (4) The Function of Livestock Industry Advisory Committees.
A. K. Mitchell, Albert, N. M.
- 2:55 (5) Television—Porcine Cryptorchid Operation.
R. E. Swinderman, Kewanee, Ill.
Narrator—*W. L. Beer, Aledo, Ill.*
- 3:05 (6) Further Work on Hemorrhagic Enterotoxemia of Infant Calves and Lambs.
L. A. Griner, Fort Collins, Colo., and E. M. Baldwin, Jr., Omaha, Neb.
Discussion.
E. M. Baldwin, Jr.
- 3:35 (7) Symposium on Anaplasmosis:
Complement-Fixation Test as a Tool in the Control of Anaplasmosis.
H. W. Schoening, W. M. Mobler, and D. W. Gates, Washington, D. C.
Use of Antibiotics.
W. T. Oglesby, Baton Rouge, La.
The Possibilities of Introducing *Anaplasma Centrale* into the United States for Use in the Immunization of Cattle Against Anaplasmosis.
J. F. Christensen, Davis, Calif.
- 4:15 (8) Television—Clinical Gadgets.
Narrator—*A. G. Madden, Jr., Madeira, Ohio.*
Adjournment at 4:45 p.m.

Section on General Practice

Tuesday, August 24, 8:45 a.m.

Metropolitan Theatre

Second Session



J. O. Schnautz, Corvallis, Ore.,
Secretary

- 8:45 (9) Motion Picture—Scrapie in Sheep.
- 9:00 (10) Field Experiences with Bluetongue in California.
Blaine McGowan, Jr., Davis, Calif.
- 9:15 (11) Motion Picture—Bluetongue in Sheep.
Discussion.
Gordon Shultz, Sacramento, Calif.
- 9:35 (12) Recent Bluetongue Investigations in Texas—Efficacy of Experimental Vaccines and Relationship of Several American Strains.
D. A. Price, Sonora, Texas.
Discussion.
W. T. Hardy, Sonora, Texas.
- 9:55 Appointment of Nominating Committee.
- 10:00 (13) Television—Cesarean Section in the Cow.
Sam Elmer, Richland Center, Wis.
Narrator—*R. E. Pierson, Saratoga, Wyo.*
- 10:15 (14) Trichomoniasis and Its Treatment in the Dairy Bull.
M. C. Maboney, Petaluma, Calif., J. F. Christensen, Davis, Calif., and James Steere, Oregon City, Ore.
- 10:40 (15) Television—Autopsy Procedure for Poultry.
E. E. Jones, San Gabriel, Calif.
Narrator—*E. M. Dickinson, Corvallis, Ore.*
- 10:50 (16) Studies on the Etiology and Treatment of Ketosis in Dairy Cows:
a) Etiological Considerations in Bovine Ketosis.
J. C. Shaw, College Park, Md.
b) Studies on the New Corticoids in the Treatment of Ketosis.
R. A. Gessert, College Park, Md.
- 11:15 (17) Television—Urethral Calculi Operation.
G. F. Febrenbacher, Wyoming, Ill.
Narrator—*W. L. Beer, Aledo, Ill.*
- 11:30 (18) The Management of Herds Affected by Bovine Leptospirosis.
H. G. Stoenner, Olympia, Wash.
- 11:50 (19) Television—Medial Patellar Desmotomy—A New Approach.
C. H. Reid, Hollywood, Calif.

Adjournment at 12:00 noon.

(Continued on page 28)



H. W. Dunne, State College, Pa.,
Chairman

Section on Research

Monday, August 23, 1:25 p.m.

Junior Ballroom, Olympic Hotel

First Session

- 1:25 Opening Remarks by Chairman.
Report of Secretary.
- 1:30 (28) Status of the Plum Island Animal Disease Laboratory.
M. S. Shaban, Greenport, L. I., N. Y.
- 1:50 (29) Variations (Variants) of Hog Cholera Virus. III. Further Attempts to Enhance Its Variant Characteristics by Simultaneous Passage with Varied Amounts of Different Serums.
C. N. Dale and M. R. Zinober, Washington, D. C., and J. P. Torrey, Ames, Iowa.
- 2:10 (30) The Pathogenesis of Experimental Swine Erysipelas.
G. R. Spencer, Pullman, Wash.
- 2:30 (31) The Pathology of Equine Incoordination (Ataxia or "Wobblers" of Foals).
T. C. Jones, Washington, D. C., E. R. Doll and Ross Brown, Lexington, Ky.
- 3:10 (32) Nigra-Pallidal Encephalomalacia (Chewing Disease) in Horses on Rations High in Yellow Star Thistle.
D. R. Cordy, Davis, Calif.
- 3:30 (33) The Problem of Granulomatous Inflammation in Veterinary Pathology.
R. A. Runnells and R. F. Langham, East Lansing, Mich.
- 3:50 (34) A Study of the Epizootiology of Bacillary Hemoglobinuria.
J. W. Safford and L. D. Smith, Bozeman, Mont.
- 4:10 (35) The Pathology of a Mucosal Disease of Cattle.
F. K. Ramsey, Ames, Iowa.
- 4:30 (36) Studies on Bluetongue.
D. G. McKercher, Blaine McGowan, Jr., and J. K. Saito, Davis, Calif.

Adjournment at 4:50 p.m.

Section on Research

Tuesday, August 24, 9:00 a.m.

Junior Ballroom, Olympic Hotel

Second Session



G. A. Young, Austin, Minn.,
Secretary

- 9:00 (37) Stiff Lambs in Oregon (Illustrated).
J. N. Shaw and O. H. Muth, Corvallis, Ore.
- 9:20 (38) Progress in Bloat Research and Control.
R. E. Nichols, Madison, Wis.
- 9:40 (39) The Role of Estrogenic Substances in Ruminant Nutrition.
L. C. Payne, Ames, Iowa.
- 10:00 (40) Trichostrongylidosis—The Mouse as an Experimental Animal.
N. F. Baker, Davis, Calif.
- 10:20 Nominations for Section Officers.
- 10:25 (41) The Effect of Environmental Temperature on Susceptibility of the Mouse to Vesicular Stomatitis Infection.
T. P. Griffin, R. P. Hanson, and C. A. Brandly, Madison, Wis.
- 10:45 (42) Toxicity of Radioiodine.
L. K. Bustad, C. M. Barnes, and L. A. George, Richland, Wash.
- 11:05 (43) Serology and Coccidioidin Skin Testing in Diagnosis of Canine Coccidioidomycosis.
R. E. Reed, Tucson, Ariz.
- 11:25 (44) Experimental Bovine Leptospirosis—Pathological, Hematological, Bacteriological, and Serological Studies.
K. R. Reinhard and W. J. Hadlow, Hamilton, Mont.
- 11:45 (45) Response of the Cave Bat to Several Strains of Rabies Virus by Different Routes of Exposure.
R. L. Reagan, E. C. Delaba, and A. L. Brueckner, College Park, Md.

Adjournment at 12:00 noon.



H. E. Jensen, Cleveland, Ohio,
Chairman

Section on Small Animals

Tuesday, August 24, 1:30 p.m.

Metropolitan Theatre

First Session

- 1:30 (46) Motion Picture—Repair of Epiphyseal Fractures.
E. P. Leonard, Ithaca, N. Y.
- 1:50 Opening Remarks by Chairman.
Report of Secretary.
- 2:00 (47) The Practical Application of Antibiotics in Small Animal Practice.
S. F. Scheidy, J. H. Mark, and J. F. Skelley, Philadelphia, Pa.
- 2:25 (48) Television—Removal of the Patella.
R. L. Rudy, Columbus, Ohio.
Narrator—F. J. Kingma, Columbus, Ohio.
- 2:40 (49) Corrective Surgery for Abnormal Ear Carriage.
F. R. Booth, Elkhart, Ind.
- 3:20 (50) Television—The Thoracic Approach in the Repair of Diaphragmatic Hernias.
C. M. Bemis, Selah, Wash.
- 3:40 (51) Symposium on Hepatitis and Distemper:
Moderator—J. L. Ellis, Olympia, Wash.
The Differential Diagnosis of Canine Distemper and Infectious Hepatitis.
R. L. Ott, Pullman, Wash.
Treatment of Infectious Hepatitis and the Distemper Syndrome.
B. R. Pinckney, Tacoma, Wash.
Immunization Against Canine Distemper and Infectious Canine Hepatitis.
C. M. Bower, Topeka, Kan.
- 4:20 (52) Television—The Abdominal Approach to a Diaphragmatic Hernia.
W. F. Winkler, Newport, Ky.
Narrator—F. J. Kingma, Columbus, Ohio.
Adjournment at 4:45 p.m.

Section on Small Animals

Wednesday, August 25, 9:00 a.m.

Metropolitan Theatre

Second Session



J. L. Ellis, Olympia, Wash.,
Secretary

- 9:00 (53) Motion Picture — Simple Techniques for Sterile Surgery for the Practitioner.
E. P. Leonard, Ithaca, N. Y.
- 9:15 (54) Some Conditions of the Coxofemoral Joint Amenable to Surgery.
W. O. Brinker, East Lansing, Mich.
- 9:50 (55) Television — Declawing a Cat.
A. G. Misener, Chicago, Ill.
- 10:00 (56) Virus Diseases of Mink.
J. R. Gorham, Pullman, Wash., and G. R. Hartsough, New Holstein, Wis.
- 10:20 (57) A Life Cycle Approach to Parasite Control.
E. A. Benbrook, Ames, Iowa.
- 10:45 (58) Television:
Demonstration of the Positioning of a Patient for Radiographs.
Myron Thom, Pasadena, Calif.
Handling Furbearing Animals.
J. R. Gorham, Pullman, Wash.
- 10:55 Appointment of Nominating Committee.
- 11:00 (59) Congenital Dysplasia of the Hip (Canine) and Sequelae.
G. B. Schnelle, Boston, Mass.
- 11:25 (60) Cortone Therapy in Small Animal Practice.
Laurent Michaud, Rahway, N. J.
- 11:45 (61) Television — Thoracic Invasion of the Esophagus for the Repair of Diverticula or the Removal of Foreign Bodies.
M. W. Allam and J. E. Martin, Philadelphia, Pa.
Narrator — *F. J. Kingma, Columbus, Ohio.*
- Adjournment at 12:00 noon.

(Continued on page 29)



Ronald Gwatkin, Hull, P. Q.,
Chairman

Section on Poultry

Tuesday, August 24, 1:30 p.m.

Junior Ballroom, Olympic Hotel

First Session

- 1:30 Opening Remarks by Chairman.
Report of Secretary.
- 1:40 (69) Species of *Coccidium* Affecting Turkeys.
E. N. Moore, Wooster, Ohio.
- 2:00 (70) Studies of Some Factors to Be Considered in Evaluating the
Effect of Certain Chemical Agents on Newcastle Disease Virus.
C. H. Cunningham, East Lansing, Mich.
- 2:20 (71) A Study of Possible Avenues of Infection with the Virus of
Avian Visceral Lymphomatosis.
B. R. Burmester and R. F. Gentry, East Lansing, Mich.
- 2:40 (72) Factors Influencing the Efficiency of Vaccination of Chicks
Against Newcastle Disease by the Airborne Route.
R. A. Bankowski and R. W. Hill, Davis, Calif.
- 3:00 Intermission.
- 3:10 (73) The Sensitivity of *Erysipelothrix Rhusiopathiae* to Antibiotics
and Its Relation to Chemotherapy.
I. W. Moynihan and P. L. Stovell, Vancouver, B. C.
- 3:30 (74) Performance of a Bacterin in the Control of Erysipelas in
Turkeys.
A. C. Jerstad and E. E. Johns, Puyallup, Wash.
- 3:50 (75) Progress in Air Sac Infection Research.
O. L. Osteen, Washington, D. C.
- 4:10 (76) Fowl Typhoid Control in Alberta.
C. H. Bigland, Edmonton, Alta.

Adjournment at 4:30 p.m.

Section on Poultry

Wednesday, August 25, 9:00 a.m.

Junior Ballroom, Olympic Hotel

Second Session



E. E. Jones, San Gabriel, Calif.,
Secretary

- 9:00 Motion Picture.
- 9:15 Nominations for Section Officers.
- 9:20 (77) A Rapid Slide Agglutination Test for the Diagnosis of Chronic Respiratory Disease in the Field and in Laboratory-Infected Chickens and Turkeys — A Preliminary Report.
H. E. Adler, Davis, Calif.
- 9:40 (78) Poultry Disease Problems in British Columbia.
J. C. Bankier, Vancouver, B. C.
- 10:00 Intermission.
- 10:10 (79) Symposium on the Role of the Veterinarian in the Control of Poultry Diseases:
- Problems of Developing a Poultry Practice.
M. P. Chapman, Sherwood, Ore.
- Breeding Farm-Hatchery.
W. D. Urban, Niles, Calif.
- The Role of the Veterinarian in the Commercial Feed Industry.
L. C. Pelton, Seattle, Wash.
- University Extension Service.
C. D. Lee, Ames, Iowa.
- Diagnostic Laboratory Service.
P. C. Bennett, Ames, Iowa, and D. E. Stover, Sacramento, Calif.
- Adjournment at 12:00 noon.



J. A. Henderson, Guelph, Ont.,
Chairman

Section on Surgery and Obstetrics

Wednesday, August 25, 1:30 p.m.

Metropolitan Theatre

First Session

- 1:30 Opening Remarks by Chairman.
Report of Secretary.
- 1:40 (80) Motion Picture—Applied Anatomy as Related to Paralumbar Nerve Block in Cattle.
Discussion.
Robert Getty and John Bowne, Ames, Iowa.
- 2:00 (81) The Development and Significance of Frozen Semen in Cattle Breeding.
J. W. Pirie, Cedar Rapids, Iowa.
- 2:25 (82) Television—Surgical Intervention in Traumatic Reticulitis of Cattle.
H. E. Warsinske, Stanwood, Wash., and Arne Hansen, Arlington, Wash.
Narrator—Carl Hjort, Stanwood, Wash.
- 2:50 Appointment of Nominating Committee.
- 2:55 (83) Blood Transfusion in Cattle Under Range Conditions.
L. M. Koger, Ontario, Ore.
- 3:15 (84) Television—New Drugs for Use in Equine Restraint.
A. D. Rankin, N. H. Booth, and T. Belling, Fort Collins, Colo.
- 3:40 (85) Preparturient Prolapse of Vaginal Wall.
R. E. Watts, Pullman, Wash.
- 4:00 (86) Pelvis Splitting as an Aid in Dystocia of Heifers.
J. J. Hird, Bishop, Calif.
- 4:20 (87) Television—Dental Procedures in the Horse.
G. H. Keown, Pullman, Wash.
Narrator—R. E. Watts, Pullman, Wash.
- Adjournment at 4:45 p.m.

Section on Surgery and Obstetrics

Thursday, August 26, 9:00 a.m.

Metropolitan Theatre

Second Session



T. R. Phelps, Vancouver, Wash.,
Secretary

- 9:00 (88) Motion Picture—Applied Anatomy as Related to Nerve Blocks for Anesthesia of the Horn and Eye of Cattle.
Discussion.
Robert Getty and John Bourne, Ames, Iowa.
- 9:20 (89) Hormone Therapy in Bovine Infertility.
R. H. Hollis, North Chicago, Ill.
- 9:45 (90) Television—X Ray as an Aid in the Diagnosis and Treatment of Lameness.
Myron Thom, Pasadena, Calif.
- 10:00 (91) Enzymatic Debridement.
S. F. Scheidy, Frank Kral, and C. W. Raker, Philadelphia, Pa.
Discussion.
L. E. Boley, Urbana, Ill.
- 10:25 (92) Television—A Technique of Liver Biopsy in Cattle.
J. F. Bone, Corvallis, Ore.
Narrator—*J. O. Schnautz, Corvallis, Ore.*
- 10:30 (93) Uterine, Cervical, and Vaginal Insufflation in Bovine Sterility.
E. M. Hanawalt, Coos Bay, Ore.
- 10:50 Nominations for Section Officers.
- 10:55 (94) Diagnosis of Oviduct Patency in the Cow.
L. E. McDonald, Stillwater, Okla.
- 11:20 (95) Television—the Veterinarian's Role in Atomic Bomb Fallout.
Narrator—*L. K. Bustad, Richland, Wash.*
C. M. Barnes, Richland, Wash.
J. H. Rust, Chicago, Ill.
B. F. Trum, Oak Ridge, Tenn.
A. H. Wolff, Cincinnati, Ohio.

Adjournment at 11:50 a.m.



B. H. Dean, Piedmont, Calif.,
Chairman

Section on Public Health

Wednesday, August 25, 1:30 p.m.

Junior Ballroom, Olympic Hotel

First Session

- 1:30 (96) Motion Picture.
1:45 Opening Remarks by Chairman.
Report of Secretary.
2:00 (97) Rabies in the Bat.
J. E. Scatterday, Jacksonville, Fla.
2:15 (98) Incidence of Listeriosis in Man and Animals in California.
P. D. DeLay and Gordon Schultz, Sacramento, Calif.
2:35 (99) Relationship of the Humane Movement to the Veterinary Profession.
C. W. Friedrichs, San Francisco, Calif.
Discussion.
G. B. Schnelle, Boston, Mass.
2:55 (100) Recent Outbreaks of Trichinosis in Man in Oregon.
S. B. Osgood and W. J. Stone, Salem, Ore.
3:20 Appointment of Nominating Committee.
3:30 (101) The Use of Ionizing Radiation in Food Preservation and Parasite Destruction—A Survey.
U. S. G. Kuhn, III, B. F. Trum, and J. H. Rust, Oak Ridge, Tenn.
3:50 (102) Encephalitis in Man in Saskatchewan Caused by the Virus of Western Equine Encephalomyelitis.
J. S. Fulton, Saskatoon, Sask.
Adjournment at 4:15 p.m.

Section on Public Health

Thursday, August 26, 9:15 a.m.

Junior Ballroom, Olympic Hotel

Second Session



S. G. Kenzy, Pullman, Wash.,
Secretary

9:15 (103) Motion Picture.

9:30 (104) Symposium on Veterinary Public Health:
The Challenge to Veterinary Public Health.
I. A. Merchant, Ames, Iowa.

Undergraduate Training in Veterinary Preventive Medicine
in Public Health.

J. H. Helwig, Columbus, Ohio.

Graduate Training in Veterinary Public Health.
D. E. Jasper, Davis, Calif.

The Integration of the Public Health Veterinarian into a
Public Health Program.

C. L. Larson, Hamilton, Mont.

10:50 Nominations for Section Officers.

11:00 (105) Public Health Aspects of Listeriosis.
Carl Olson, Jr., Lincoln, Neb.

11:20 (106) Public Health Aspects of Animal Leptospirosis.
K. R. Reinhard, Hamilton, Mont.
Discussion.

C. L. Larson, Hamilton, Mont.

11:40 (107) Newer Knowledge Concerning Rabies.
Hilary Koprowski and R. L. Burkhart, Pearl River, N. Y.
Adjournment at 12:00 noon.

Section on General Practice—Continued from page 17

Third Session

Tuesday, August 24, 1:30 p.m.

Olympic Bowl, Olympic Hotel

- 1:30 (20) Motion Picture—Rabies in Canada.
Dominion Department of Agriculture, Ottawa, Ont.
- 1:50 (21) Suggested Application of Present Knowledge for the Control of Swine Erysipelas.
R. D. Shuman, Washington, D. C.
- 2:15 (22) A Place for the Practitioner in the Program of the Agricultural Extension Service.
K. G. McKay, Davis, Calif.
Discussion.
F. H. Saunders, Stockton, Calif., and C. J. Ferreira, Redding, Calif.
- 2:35 (23) Johne's Disease—Its Diagnosis and Control.
A. B. Larsen, Auburn, Ala.
- 3:00 (24) Studies on Atrophic Rhinitis.
W. P. Switzer, Ames, Iowa.
- 3:25 Nominations for Section Officers.
- 3:30 (25) Vibriosis of Sheep.
E. A. Tunnickliff, Bozeman, Mont.
- 3:50 (26) Internal Parasites in Young Cattle and Sheep in Oregon.
J. N. Shaw, Corvallis, Ore.
- 4:10 (27) The Use of Cortisone and Hydrocortisone in Veterinary Medicine.
J. E. Martin, W. E. LaGrange, F. G. Fielder, J. F. Skelley, and M. W. Arnold, Philadelphia, Pa.

Adjournment at 4:30 p.m.

Section on Small Animals—Continued from page 21

Third Session

Wednesday, August 25, 1:15 p.m.

Olympic Bowl, Olympic Hotel

- 1:15 (62) Motion Picture — Repair of Fractures of the Jaw.
E. P. Leonard, Ithaca, N. Y.
- 1:30 (63) Symposium on Hospital Management:
Moderator — *C. W. Bower, Topeka, Kan.*
How to Get and Keep Satisfied Clients.
H. H. Groth, San Mateo, Calif.
Advantages of Appointment System in Practice.
V. G. Crago, Youngstown, Ohio.
Feeding Hospitalized Dogs.
C. A. Bjork, Portland, Ore.
The Practical Uses of Ultraviolet Light in a Small Animal Hospital.
H. M. Bratt and H. Marvin Bratt, Terre Haute, Ind.
Is an Accountant a Good Investment?
G. W. Staggs, Tacoma, Wash.
- 2:40 Nominations for Section Officers.
- 2:45 (64) Some Clinical Aspects of Leptospirosis.
J. O. Knowles, Miami, Fla.
- 3:10 (65) Treatment of Skin Tumors in the Dog—Comparison of Surgery and Physiotherapy.
W. H. Riser, Skokie, Ill.
- 3:40 (66) Observations on the Use of Certain Hematological Techniques in Canine Medicine.
O. W. Schalm and Margaret Wood, Davis, Calif.
- 4:15 (67) The Clinical Application of the Pharmacology of the Frequently Used Anesthetic Agents.
F. J. Kingma, Columbus, Ohio.
- 4:20 (68) Panel on Clinical Aids—Gadgets or Treatments of Value to the Practitioner.
C. A. Bjork, Portland, Ore.
J. O. Knowles, Miami, Fla.
V. G. Crago, Youngstown, Ohio.
W. F. Winkler, Newport, Ky.
A. G. Misener, Chicago, Ill.
J. L. Ellis, Olympia, Wash.

Adjournment at 4:45 p.m.

General Convention Entertainment — Seattle

Monday, August 23, 12:15 p.m. — AVMA Golf Tournament, Everett Golf and Country Club.

Monday Night, August 23 — Open for individual activity.

Tuesday, August 24 (late afternoon and evening)—Salmon Bake, traditional Indian-style food and entertainment event. Reservations limited to 1,000 persons; tickets including transportation, \$5.00 per person.

For those who do not take part in the Salmon Bake, other entertainment will be available for which tickets will be sold.

Wednesday, August 25, 6:30 p.m. — Alumni Dinners.

Wednesday, August 25, 9:00 p.m. — President's Reception and Dance, plus Special Entertainment — Civic Auditorium.

It is expected that special trips to places of interest such as Carnation Milk Farms will be offered at stated times during the convention, for which veterinarians can sign up.

Golf Tournament to Be Held in Seattle

The golf tournament will be held on Monday, August 23, at the Everett Golf and Country Club, 25 miles north of Seattle. This course is recognized as being one of the most beautiful in the Northwest.

Buses will leave promptly at 12:15 p.m. from the Olympic Hotel. On arrival at the Club, cocktails will be served followed by a buffet luncheon. Teeing off time will be 1:30 p.m. and all starting times for players will be under the management of Mr. Ken Tucker and his assistants. The tournament will be played under U.S.G.A. rules.

Trophies will be awarded for the following: state or provincial two-man team championship; individual champion or medalist; exhibitors division; students division; low net score; and most honest golfer. Additional prizes will be given for

longest drive on certain holes and closest to the pin on shortest holes. Charges for this activity will be \$6.50 which includes transportation, cocktails, luncheon, and green fees.

Garages, Parking, and Airports

Garages and Parking.—Seattle hotels have garage facilities for guests, or other storage can be arranged. Guests may leave their cars with the doorman at the respective hotels, with instructions for storage and delivery.

Parking lots are readily accessible from the various hotels.

Airports.—Airports are the Seattle-Tacoma Airport, 13 miles south of Seattle, and Boeing Field. Private planes may be housed at either field. Buses carry passengers from these fields to the city at regular intervals.

On the shore of beautiful Lake Washington, which provides yachtsmen a 26-mile sailing stretch, is the Seattle Tennis Club, part of which is shown here.



The Scientific Exhibits

The scientific exhibits at the Seattle meeting have been furnished by several educational institutions and governmental agencies. They are located on the Balcony of the Spanish Ballroom of the Olympic Hotel.

A committee will study the scientific exhibits and award certificates to the three judged to be of greatest merit.

All veterinarians are urged to visit these exhibits which are designed to portray important aspects of problems requiring the profession's attention.

The Federal Veterinarian in Agriculture

United States Department of Agriculture

There will be displayed, on seven panels, the organization of the agencies in the U. S. Department of Agriculture employing veterinarians, services performed, including disease control and eradication, research, import and export control, and inspection activities. This exhibit features Agriculture's "Hall of Fame", and shows where federal veterinarians serve throughout the United States.

Current Anatomical Research

Department of Anatomy, School of Veterinary Medicine, University of California

This exhibit will consist of specimens representing research activities and teaching techniques employed by the Department of Anatomy, School of Veterinary Medicine, University of California. Sample specimens involve projects on bovine dwarfism, structure of ovine teeth, neoplastic growth, and minor projects, with brief descriptions of the significance of the problems to veterinary anatomy.

Important Features of Leptospirosis in Cattle and Fluorosis in Domestic Animals

Washington State Student Chapter of the American Veterinary Medical Association

Important features of leptospirosis in cattle and fluorosis in domestic animals will be presented. Both of these diseases are now being studied at the Washington State College of Veterinary Medicine. Highlights of the educational facilities and a scale model of the school will also be presented.

Animal and Human Leptospirosis

Rocky Mount Laboratory, National Microbiological Institute, National Institutes of Health, U. S. Public Health Service, Department of Health, Education and Welfare

This exhibit will feature descriptions by photographs, drawings, and diagrams of the clinical, pathological, and epidemiological features of animal and human leptospirosis, with emphasis on the means of transmission from animals to people.

Systemic Mycosis in Animals

*American Veterinary Medical Association
and Armed Forces Institute of Pathology*

There will be in this exhibit a portrayal of the clinical features, epizootiology, and pathology of certain systemic fungous infections of animals, using charts and transparent color photographs and photomicrographs. The following diseases are presented: histoplasmosis, blastomycosis, cryptococcosis, actinomycosis, sporotrichosis, coccidioidomycosis, aspergillosis, and mon-

iliasis. Many of these diseases affect man as well as lower animals and are therefore of public health significance.

Radiology in Veterinary Medicine

School of Veterinary Medicine, University of California

This exhibit will consist of transparencies of roentgenograms of various diseases and conditions of large and small animals. There will be chest plates of cattle with traumatic pericarditis, metastatic neoplasms, inhalation pneumonia, and pulmonary emphysema. There will also be chest plates of horses with hydrothorax, and chest plates of dogs with coccidioidomycosis, virus pneumonia, primary bronchiogenic carcinoma, and other canine diseases.

Bovine Tuberculosis and Its Control in the United States

United States Department of Agriculture, American Veterinary Medical Association, United States Livestock Sanitary Association, American Public Health Association, American Medical Association

This exhibit will consist of three panels hinged together. The general theme is that the national eradication of bovine tuberculosis has more than paid for itself in the animal products saved and the human disease which has been prevented. This will be shown with pictures, graphs, maps, and bar graphs, covering the development of controls, epizootiology, epidemiology, and control results.

The Commercial Exhibits at Seattle

The commercial exhibits at the Ninety-First Annual AVMA Convention will — as always — be a colorful demonstration of the many products and technical developments which enable veterinarians to keep abreast of the times in their services to clients and patients.

Over 50 leading companies will occupy 58 booths in the Assembly Lounge and Spanish Ballroom of the Olympic Hotel.

The American Veterinary Exhibitors Association will again sponsor awards as part of its program of improving the exhibits feature and stimulating interest in, and inspection of, the displays. Pieces of fine luggage will be presented to a veterinarian and to a veterinarian's wife whose names are drawn. Details on how to qualify for these prizes will be distributed to registrants.

Abbott Laboratories

Booth 1

Abbott will exhibit Erythrocin, the selective antibiotic for use against coccal infections and for those resistant to penicillin; Seleen Suspension, for the control of dry and moist eczema and fungous infections; Sulvetil with penicillin and streptomycin for udder instillation in the treatment of streptococic or staphylococic mastitis; Vetrophin, Abbott's pituitary gonadotrophin.

Albers Milling Company (Friskies Dog Food)

Booth 29

At Albers Milling Company's Friskies Dog Food display booth there will be on display Friskies products. Also, copies of our research bulletins *Dog Research News* and *Kennel Hints* containing articles by Dr. E. M. Gildow which are available to veterinarians.

Pitman-Moore Division of Allied Laboratories, Inc.

Booths 41 and 42

Pitman-Moore Company will display a wide variety of pharmaceutical and biological preparations. Whipcide, the new development in the control of whipworms in dogs, will be featured. An invitation is extended to all attending veterinarians to visit our booth during the meeting.

Ames Company, Inc.

Booth 23

The Ames Diagnostic Kit will be featured in this display. This small kit (3 by 9 in.) contains Clinitest, Bumintest, Acetest, and Hematest, simplified tests for urine-sugar, albumin, acetone, and occult blood. Ictotest, a new thirty-second test for the detection of urine bilirubin as an aid to the early diagnosis and management of jaundice and hepatitis, will also be on display.

Armour Veterinary Laboratories

Booth 7

Armour's display will feature the following new ethical specialties: P.L.H.—purified luteinizing hormone; Adrenomone—Long-Acting Veterinary Corticotropin (ACTH) in gelatin; Dynamone—long-acting glucose; P.O.P.—Purified Oxytocic Principle; and Tryptar-Vet—the new enzyme for dissolving necrotic tissue.

Ashe Lockhart, Inc.

Booth 24

A new attractive exhibit will display a complete line of veterinary biological products for both large and small animals, featuring new products for canine distemper and infectious canine hepatitis, including a combination vaccine against both diseases, and other products of special interest to the profession. Produced by veterinarians for veterinarians.

Fred Biel — Surgical and Veterinary Supplies

Booth 35

We invite all veterinarians attending the convention to visit our booth. Our display will consist of instruments for large and small animal work, both domestic and imported products. Your inspection will convince you that we have combined quality with low price. All orders will be filled promptly.

The Birtcher Corporation

Booth 34

You are cordially invited to visit the Birtcher booth where courteous representatives will appreciate the opportunity of discussing our Electro-Medical Apparatus.

H. C. Burns Co., Inc.

Booth 5

A complete line of Buco pharmaceutical specialties, equipment, and instruments will be on display. Featured are Buco products developed for the veterinary profession only by H. C. Burns Co., Inc., including: Aqua-Vite, Bacitracin 10MU, Beuthanasia, Bucotone, Bucotox, Bu-Mycin, Bu-Pekcin, Chloroint, Enterotabs, Enterobols, Fleadane, Fungoint, Mint-0-5, Pentosol, Qua Septic Tabs, Rumade, Rumicone, Strepto-Sul, Uramole, Vita Drops, and VitaMinOral. Also, exclusive specialties from other manufacturers will be featured.

Campbell X-Ray Corporation

Booth 17

The Campbell X-Ray Corporation will exhibit the Campbell X-Ray Anima-graph with various accessories which are necessary to equip a small animal hospital for both radiography and fluoroscopy.

CSC Pharmaceuticals
A Division of Commercial Solvents Corporation

Booth 30

C.S.C. Pharmaceuticals, a Division of Commercial Solvents Corporation, cordially invites you to visit our display of bacitracin veterinary products. Bacigro® pellets for subcutaneous implanting, and Parentracin® for intramuscular injection will be featured. Expandex®, a plasma volume expander containing dextran hydrolyzed to the molecular weight of blood protein, will also be shown.

Corn States Laboratories, Inc.
(Formerly The Corn States Serum Company)

Booth 45

The exhibit of Corn States Laboratories, Inc., will consist of samples of many biological products produced by the company, including specialties; also products of firms that we represent as distributors.

Delphi Products Co., Inc.

Booth 31

The new Western Ranger portable chute will be continuously demonstrated. Thirty new and revolutionary improved features help make the Ranger chute by far the safest and speediest chute ever to be offered to the practitioner. Movies of hoof trimming, general surgery, and dehorning will be shown.

Desitin Chemical Company

Booth 54

This exhibition features Desitin ointment, external cod liver oil therapy, and its adjuvant Desitin powder. The ointment combines crude high potency Norwegian cod liver oil, zinc oxide, and talcum in a modified lanolin petrolatum base. It is indicated in postoperative dressings, slow-healing wounds, burns of all degrees, et cetera.

Doho Chemical Corporation

Booth 26

The Doho Chemical Corporation and its subsidiary, Mallon Chemical Corporation, are pleased to exhibit their preparations: Auralgan for relief of pain and itching in otorrhea, canker, and ear mites; Otosmosan for suppurating ears, fungous conditions, and all other forms of aural dermatomycosis; Rhinalgan, the pleasant-tasting nasal decongestant which shrinks the mucous membrane without any systemic or circulatory effect, particularly in distemper; and new Rectalgan, the liquid topical anesthesia for immediate symptomatic relief of pain and itching in hemorrhoids, and for many other uses pre- and postoperatively. All these medications are routinely used by the medical profession on infants as well as their geriatric patients.

Drug Publications, Inc.

Booth 27

The new completely rewritten and reset 1954 edition of the "Veterinary Drug Encyclopedia and Therapeutic Index" will be on display. This edition has been enlarged to almost twice the size of the previous edition and contains numerous improvements and changes. Products appearing for the first time in this new edition are identified by an asterisk. We invite your inspection and suggestions.

Eisele & Company

Booth 57

Eisele & Company will display their line of veterinary syringes, needles, thermometers, and other accessories useful to the veterinarian.

Fort Dodge Laboratories, Inc.

Booths 8 and 9

On exhibit will be M-L-V, the original modified live virus hog cholera vaccine; Distovax, chicken embryo origin canine distemper vaccine; Longicil, the popular long-acting penicillin compound; Soxipent, the modern preparation for treatment and control of bovine mastitis; Carafen, the new canine cough syrup; and various other biological and pharmaceutical preparations.

Fromm Laboratories, Inc.

Booth 58

This exhibit will feature Anti-Swine Erysipelas Serum and Desiccated Vaccines. Also, some Fromm "firsts" will be featured, such as: Distemperoid Virus, Bivalent Serum, Minkvac, and a number of other interesting biological products.

Gaines Division, General Foods Corporation

Booth 51

The Gaines Division, General Foods Corporation, will have a display of their Homogenized Gaines Meal. Representatives will be in attendance at the exhibit to explain the many advantages of this product.

Goshen Laboratories, Inc.

Booth 6

This display will include products of Goshen's own manufacture as well as those of the Arnar-Stone Laboratories, Inc.; The Carlton Corporation; Ciba Pharmaceutical Products, Inc.; E. Fougere & Co.; Hance Bros. & White Co.; Hungerford Plastics Corporation; Micro Instrument & Tool Co.; Modern 1st Aid Necessities Co.; Pyroxylin Products Corporation; Radio Corporation of America; Reed & Carnrick; Sandoz Pharmaceuticals; and Virginia Smelting Company.

Haver-Glover Laboratories

Booths 43 and 44

Haver-Glover representatives anticipate the pleasure of greeting veterinarians in attendance at the convention in Seattle. The display will feature selections from our complete line of pharmaceutical, biological, and surgical supplies, including recently added medicinal products and new improved instruments and appliances.

Hill Packing Company

Booth 14

Nutritional therapy has now been accepted by clinicians in small animal practice. Hill Packing Company will accent its contribution to the field by a complete display of prescription diets. Late information on feline nutrition will be available. Other items of interest to the veterinarian will be displayed.

Dr. S. Jackson, Importer-Exporter of Pharmaceutical, Diagnostic, Surgical Specialties

Booth 22

This display will feature the Electromagnetic Metal Detector; Coecolysin Bengen, world's only veterinary medicament containing peristaltic hormone; Otrhomin Weidner, a radically new broad spectrum chemotherapeutic; Self-Expanding Teat Dilator Bengen; Vetafil Bengen, a new surgical suture replacing catgut; Rumenotomy Device; Flexible Embryotome; and Amino-Weidnerit, called the wonder wound cover. You are cordially invited to visit the exhibit.

Jensen-Salsbery Laboratories, Inc.*Booths 32 and 33*

The Jen-Sal exhibit will feature MWR-352, a scientifically formulated ration additive for dogs; Profloran, a practical aid in the correction of rumen dysfunction; D.C.M. Special Concentration, a calcium-magnesium solution produced from an entirely new series of compounds; SV-2, Jen Sal's modified live virus hog cholera vaccine; and some of the newer surgical instruments.

Kellogg's*Booth 36*

This exhibit will consist of packaged Gro-Pup Dog Foods. Favors will be distributed at the booth, and a nutritionist will be present.

Kirschner Manufacturing Co.*Booth 4*

Kirschner Manufacturing Company invites all attending veterinarians and their wives to visit our booth. On display will be the Edmonds Plastic Cage, as well as improved equipment and instruments for the repair of fractures.

J. B. Lippincott Company*Booth 16*

J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than one hundred years of traditionally significant publishing.

The S. E. Massengill Company*Booth 25*

A cordial invitation is extended to veterinarians to visit our booth where our representatives will gladly discuss our products. New products of interest will be Daribiotic, a distinct improvement in mastitis therapy, and Adrenosem, the missing link in bleeding control.

Miles Laboratories, Inc.*Booth 48*

This exhibit will feature Bactine,[®] Concentrated Bactine, and One-A-Day (brand) Multiple Vitamin Tablets. Bactine, the multiple purpose germicide and fungicide, is well tolerated by animals. It does not contain mercury, iodine, or phenol. Also, Bactine is a pleasant reliable deodorizer. To combat infection, relieve pain and itching, cleanse, disinfect, and deodorize use Bactine.

Miller Surgical Company*Booth 12*

See the Miller Electro-Scalpel Model 10V-0, a portable office unit for all phases of electrosurgery, electrocutting, coagulation, desiccation, fulguration, et cetera. Also featured in this exhibit will be insulated snares, grasping forceps, and Illuminated Diagnostic Equipment consisting of otoscopes, ophthalmoscopes, gastrosopes, bronchoscopes, headlites, eyespuds, and rectal scopes.

Motorola Communications & Electronics, Inc.*Booth 28*

Motorola Communications & Electronics, Inc., will display a complete line of the finest in 2-way radio communications equipment for veterinary application. Featured will be Motorola's new line of 6/12 volt D.C. equipment.

Nicholson Manufacturing, Inc.

Booth 39

This display will feature electric firing irons, electric branding irons, electric dehorning equipment, and serum and instrument cases.

Norden Laboratories

Booths 20 and 21

You are cordially invited to our booths where Norden pharmaceutical and biological products, and instruments will be on display. Among featured items will be Norcalciphos Improved, Mitox for otitis in small animals, Neobacillin for mastitis, Canolene Improved for mangy dogs, and Norvac® modified hog cholera vaccine. Shaw Surgical Co., Portland, Ore., represents Norden Laboratories in the Pacific Northwest.

Pacific Laboratories, Inc.

Booth 37

Pacific Laboratories, Inc., will feature the latest developments on Mastrex, their new and effective treatment for bovine mastitis. Other indications for mercosterol, the active ingredient of Mastrex, will be shown with reprints and complete technical data. Also displayed will be ACTH-Pacific and its latest uses in veterinary practice.

Parke, Davis & Company

Booth 19

You are cordially invited to the Parke-Davis exhibit where you will be welcomed by experienced representatives who will gladly present and discuss some of our recent developments in pharmaceutical research. Several of our specialties will be displayed. Literature will be available.

Chas. Pfizer & Co., Inc.

Booths 2 and 3

Pfizer Laboratories' booth will feature and demonstrate the new highly dispersible Terramycin Animal Formula for mastitis, Eye Pellets, and the new Terramycin Soluble powder for use in most domestic animals including adult ruminants. Many other new dosage forms of Terramycin will also be on display along with literature containing practical information on dosage and indications.

Quaker Oats Company

Booth 53

This exhibit will carry the complete line of dog foods manufactured by the Ken-L-Products Division of the Quaker Oats Company, which includes Ken-L-Ration, Ken-L-Biskit, Ken-L-Meal, and Chappel Horse Meat.

Ralston Purina Company

Booth 52

There will be a presentation of selected frames from our new film "The Rumen Story" by taking visitors "inside the rumen." We are learning more and more daily about feeding the microorganisms in the rumen and this scientific study and presentation is made for its contribution in the production of human food and clothing.

Sharp & Dohme, Division of Merck & Co., Inc.

Booth 13

Sharp & Dohme exhibit will feature Cortone, Cyclaine, Sulfathalidine, and other veterinary specialties and antibiotics as well as certain specialties labeled for human beings but well adapted for veterinary practice.

R. A. Simmonds Corp.*Booth 10*

A display of Simmonds 100 per cent pet food which consists entirely of chicken protein and whole eggs will be exhibited. This product has a biological value comparable to that of beef and an extremely high palatability factor for both dogs and cats. It is particularly successful with sick animals. Dr. Wm. F. Mosher will be in attendance at the booth.

E. R. Squibb & Sons*Booths 55 and 56*

The Squibb exhibit will feature three veterinary specialties: Ophthaine, a new local anesthetic; Prolactyl HP, Squibb's highly purified corticotropin gel; and Sorunex, a canine anthelmintic. Other Squibb veterinary pharmaceutical products will be on display.

Stanton Scientific Equipment Company*Booth 47*

Members are cordially invited to witness interesting demonstrations of the ingenious Handy Resuscitator which has been designed especially for the complete control of respiration during surgery and for the administration of artificial respiration in cases of critical asphyxia. The various combinations for veterinary use, in which this fine life-saving instrument is available, will be gladly shown by Stanton technicians.

Swift & Company*Booth 18*

Swift & Company's booth will again feature the company's two dog foods—canned Pard and the new homogenized dry dog food, Pard Meal. Swift & Company will again accept registrations at the booth for a supply of dog care and training pamphlets for distribution by the veterinary profession to their clients.

**The Upjohn Company,
Department of Veterinary Medicine***Booth 15*

The Upjohn Company cordially invites all veterinarians, their wives, and friends to visit our booth. We shall feature the new small animal product, Petonic Depocillin, a 96-hour penicillin; Veterinary-Dihydrocillin, Readimixed, combining penicillin G and dihydrostreptomycin in aqueous suspension; Teatube-Neomycin, for bovine mastitis; Veterinary-Biosulfa Tablets; Veterinary-Cortisone Acetate, sterile suspension. Appropriate literature and samples will be freely available.

U. S. Vitamin Corporation*Booth 38*

This exhibit will feature Methischol, a complete lipotropic formula (B₁₂, choline, inositol, methionine, and liver extracts) effective in the treatment of canine hepatitis and other liver diseases. Also effective against "yellow fat" degeneration in mink. Pervinal, a scientifically "balanced-for-dogs" vitamin and mineral supplement for dogs, mink, chinchilla, and other fur-bearing animals, and Dodecavite Drops (B₁₂, the growth-promoting anti-anemic factor) will also be featured.

Veterinary Medicine

Booth 50

Veterinary Medicine will display recent issues of its publication and new books on veterinary science. Attendants will be prepared to answer questions and to arrange for new subscriptions or renewals. They will also arrange for supply of any professional textbooks or other literature desired. Visitors will be welcomed.

Vitamineral Products Company

Booth 46

The Vitamineral Products Company, Peoria, Ill., invites you to stop at its booth for copies of the twenty-third edition of the "VPC Feed Formula Book." This book contains many valuable hints on the proper care and feeding of livestock and poultry; your clients will appreciate a copy.

The Warren-Teed Products Company

Booth 11

The Warren-Teed Products Company cordially invites you to visit their new display where new items of interest to the veterinary profession will be featured. Courteous representatives will be in attendance to assist registrants in any way possible.

Wilson & Co., Inc.

Booth 40

Visit Wilson & Company's new, modernistic display of Ideal Dog Food. Tests have proved that 2 out of 3 dogs can not pass an "insurance examination," but they could if fed Ideal Dog Food. Wilson's Ideal is compounded like a prescription. Each ingredient of Ideal is exactly balanced for nutritional sufficiency.

Winthrop-Stearns Inc.

Booth 49

Winthrop-Stearns will display many of its original veterinary products including Demerol, pHisoHex, Istizin, Nemural, Parenamine, Roccal, Fuadin, and Neoprontosil. We will also exhibit a complete line of Furacin and Furaspor preparations of the Eaton Laboratories, Inc., since we are the exclusive distributors to the veterinary profession of these products. Our new introductions, Canine Distemper Vaccine, (chicken embryo origin) and Hepvac, our hepatitis vaccine, will be shown for the first time.

A recent view of Grand Coulee Dam, the largest engineering project ever built by man, located on the Columbia River in eastern Washington.



SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

A New Plastic Surgical Bandage

R. E. WATTS, D.V.M., M.S.

Pullman, Washington

The proper treatment and protection of wounds of large animals against bacterial contamination has long been a major problem of the veterinary practitioner. Wooldridge¹ aptly stated, "If it were possible to exclude microorganisms from wounds, in most instances, healing would take place by the natural process of repair." The affixing of gauze or cloth bandages to areas of irregular shape or with a great movability is a perplexing problem.

A new type of occlusive dressing* has been developed which can be sprayed over wounds and burned areas in a short time and with little effort. As described by Choy and Wendt² this plastic dressing is nontoxic, biologically and chemically inert, adhesive, elastic, transparent, rapid-drying, and film-forming—all desirable qualities. In addition, this product is easily applied and remains in place a sufficient length of time to greatly aid tissue repair. The original research, instigated by a desire to produce a liquid surgical bandage for use on thermal injuries of atomic warfare, was conducted on swine.²

The veterinary clinic at the State College of Washington obtained some of this plastic bandage for experimental usage on wounds in large animals (table 1).

Precautions are necessary to prevent the growth of anaerobic pathogens when using an occlusion type of bandage; therefore, tetanus antitoxin or toxoid should be administered. Since it excludes oxygen, this type of bandage has not been used in treating paronychia or other types of spherophorus-infected wounds, following corrective surgery.

The plastic surgical bandage has special advantages in the treatment of bovine teat

wounds. Applying a bandage to the circumference of a teat which will adhere to, and keep, the teat relatively clean has been difficult. This plastic bandage, on the contrary, is easy to apply and interferes neither with washing the udder nor with regular milking. It may also be used to seal a plastic teat tube in place, if one is needed, following surgery or injury of the teat.

TABLE 1—Wound Healing Following the Application of a Plastic Bandage

Species	Sex	Primary wound	Healing time (Days)	Infection
Bovine	Steer	Urethrotomy	20	Slight
Bovine	Female	Exploratory, upper leg	7	None
Equine	Gelding	Herniorrhaphy	12	None
Ovine	Female	Cesarean section	6	None
Equine	Male	Fetlock injury	26	Slight
Bovine	Female	Lactal fistula	6	None
Bovine	Female	Rumenotomy	8	None
Bovine	Female	Teat surgery	6	None
Bovine	Female	Rumenotomy	10	None
Ovine	Female	Cesarean section	11	None
Bovine	Female	Rumenotomy	11	None
Ovine	Female	Cesarean section	12	None

Experience with bovine laparotomies indicates that infections may frequently occur in the surgical wound in spite of the usual aseptic precautions. The plastic bandage, sprayed over the incision, has aided greatly in reducing such wound and stitch infections. When desired, dry sulfonamide and antibiotic powders may be applied before the plastic bandage.

The plastic, spray-on, bandage is especially advantageous in the perineal area following urethrotomies of the steer since it keeps the wound free from fecal and urine irritation. The bandage may be continued ventrally to prevent the occurrence of the inflammation associated with dribbling urine. It also is beneficial for bandaging the upper limbs and abdomens of large animals where fixing the usual type of bandage is difficult if not impossible. If this bandage could be applied before the owner uses home remedy disinfectants on equine wounds, there would probably be fewer cases of exuberant granulations.

Method of Application.—The lesion and

From the College of Veterinary Medicine, State College of Washington, Pullman.

*Aeroderm is produced by the Aeroplast Corporation, Dayton, Ohio.

a suitable margin of adjacent intact skin, to afford proper anchorage, should be sprayed several times, allowing about thirty seconds for the film to dry between applications in order to produce a tough, flexible film of desired thickness. For ease of removal, it is necessary to have a film at least 0.002 to 0.003 inch thick. The aeroderm may be sprayed directly over sutures and it may also be sprayed on gauze bandages. An initial momentary sensation of irritation seems to subside almost immediately. The eyes and mucous membranes should be avoided when spraying principally because of the product's quickly evaporating solvent, ethyl acetate.

The dressing is removed by peeling it rather quickly, beginning at the outer edges.

Summary.—A new sprayable plastic surgical dressing has been used on large animal wounds with satisfactory results.

References

¹Wooldridge, G. H.: *Encyclopedia of Veterinary Medicine, Surgery and Obstetrics*. Vol. II, 2nd ed. Oxford University Press, London, (1934): 854.

²Choy, D. S., and Wendt, W. E.: *A New Local Treatment of Burns*. U. S. Armed Forces M. J., 3, (Sept., 1952): 1241-1255.

Nembutal Anesthesia in Sheep

Nembutal® solution given intravenously, 0.2 gr. per pound of body weight, was found to produce a satisfactory anesthesia in lambs for thirty-six minutes and in adult sheep for twenty-seven minutes. Because of excessive salivation, the head should be lowered to allow the saliva to escape.—*Vet. Rec.*, April 17, 1954.

Bovine Diaphragmatic Hernia Repaired

An Aberdeen Angus cow had been slightly bloated and distressed for several days. Upon rumenotomy, several pieces of metal, mostly wire, were removed from the reticulum. One piece had apparently caused a rupture of the diaphragm about 5 inches long on the lower right side. The rumen was completely emptied by using running water siphoned out with a Kingman tube and was retracted while the rupture was sutured. Using a 4-inch curved needle and 20-lb.-test nylon suture, the repair was made, using only one hand. Four sutures, cut long enough to be tied

outside and the knot pushed down until tight, were sufficient to repair the rupture. Recovery was uneventful.—*Southwest Vet.*, Fall, 1953.

Long-Acting Local Anesthetics

Because many physicians reported disappointing results with the use of efocaine, a study comparing it with other local anesthetics was undertaken with rats. Injections were made intraneurally, perineurally and, to study its local effect, intramuscularly. Whereas injections of normal saline solution of 2 per cent procaine hydrochloride, of 2 per cent lidocaine hydrochloride (xylocaine), and of dolamine, an ammonium sulfate solution, caused little if any damage or inflammation, efocaine or two of the solvents it contains used alone caused local inflammation and destruction of the nerve fibers. Their effect was roughly similar to neurectomy.—*J.Am.M.A.*, Jan. 2, 1954.

Bovine Ventral Midline Cesareotomy

With the cow cast on her left side and prepared for surgery, using local anesthesia, an incision was made through the abdominal wall $\frac{1}{2}$ in. lateral to the midline from the udder forward. The omentum was then incised, the uterus drawn into the opening, incised, and the fetus delivered. Protruding membranes were then excised, the uterus closed with an infolding, single, continuous suture with $\frac{1}{8}$ -in. umbilical tape. The parietal peritoneum and the aponeurosis were also closed with a continuous suture of this same tape and the skin with interrupted sutures of $\frac{3}{8}$ -in. tape.—*Iowa State Coll. Vet.*, 1954.

Everted Prolapsed Cecum in Two Dogs

In 2 long-standing cases of hemorrhoid-like protrusions following difficult defecation in dogs, laparotomy revealed an inverted cecum, partly occluding the gut and being extruded temporarily during defecation. In each case, the cecum and adjoining intestine were excised and an anastomosis done. In 1 animal, an end-to-end anastomosis was possible; in the other, because of the difference in size of the ileum and colon, a side anastomosis was used. Both animals recovered.—*Southwest Vet.*, Fall, 1953.

A Tracheal Deformity in a Pony

D. D. DELAHANTY, D.V.M., and
J. R. GEORGI, D.V.M.

Ithaca, New York

A 13-year-old Shetland pony was admitted to the large animal clinic (New York State Veterinary College) with a history of peculiar stridulous breathing since purchased seven months before. The owner complained that the pony would frequently honk like a truck horn and that the noise could be heard at a distance of half a mile.

Physical examination revealed a well-nourished, apparently healthy pony which occasionally emitted loud, stridulous sounds on expiration. Mild exercise caused

only a little respiratory distress but greatly increased the frequency and intensity of the "honking attacks." Palpation of the ventral neck region was confusing. At times a distinct, sharp ridge extending from the larynx to the thoracic inlet could be palpated. At other times, the ridge could not be demonstrated but, instead, what seemed to be an abnormally large trachea could be felt.

A tentative diagnosis of fracture of the tracheal cartilages was made and the animal was prepared for surgery. Sedation was obtained by intravenous injection of 130 cc. of equithesin and local anesthesia by infiltration of 2 per cent procaine hydrochloride solution along the proposed line of incision. The animal was restrained on the operating table in right lateral recumbency. The skin was incised from the level of the second tracheal ring to within a hand's breadth of the manubrium sterni, the muscles separated and the trachea exposed. There was no evidence of fracture or chondrosis of the tracheal cartilage but, instead, the entire palpable length of the trachea was flattened dorsoventrally (fig. 1).

Each tracheal ring, on cross section, was saucer-shaped, rather than the normal circular configuration, and the ends of each ring were separated by a distance of about 2 inches. Here, the flaccid tracheal membrane was seen to flutter with each respiration (fig. 1). These findings

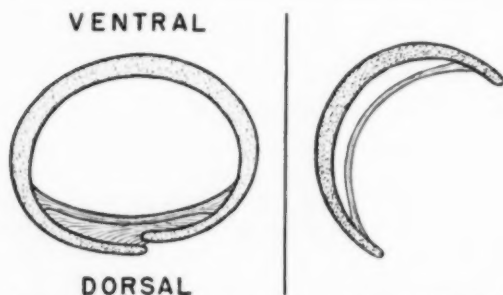


Fig. 1—Schematic drawing of cross section of normal (left) and flattened (right) trachea of a pony.

From the Department of Surgery, New York State Veterinary College, Cornell University, Ithaca.

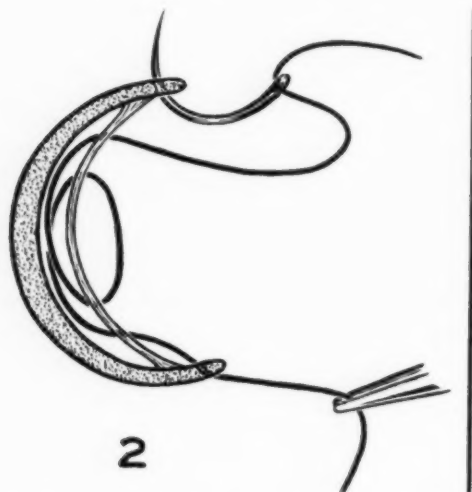


Fig. 2—Cross section of collapsed trachea of affected pony, showing insertion of repair suture.

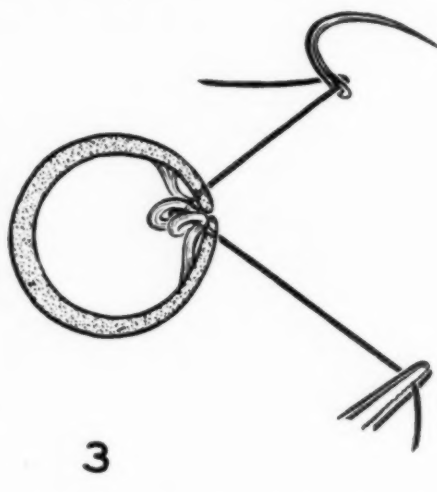


Fig. 3—Cross section of repaired trachea of pony, showing suture before tied.

explained the symptoms and confusion experienced in palpating the neck.

It was decided to attempt repair of as much of the trachea as was accessible. Using 28-gauge monofilament stainless steel wire, horizontal mattress sutures were placed in every third tracheal ring, from the larynx to the thoracic inlet. The tracheal membrane was gathered in the bite of each suture (fig. 2, 3, 4). When the sutures were drawn tight, the trachea was brought around into the shape of a cylinder. The superficial cervical fascia was approximated with No. 1 medium chromic catgut and the skin by continuous vertical mattress suture of No. 0 monofilament nylon.

The animal remained asymptomatic, except for occasional stridulous grunts, until the seventh postoperative day when the skin sutures were removed. Inasmuch as the respiratory stridor, although considerably improved, was still present, it was assumed that the defect included the thoracic part of the trachea. When the owner was informed of this fact he requested euthanasia which was performed on the fourteenth postoperative day.

Necropsy findings confirmed involvement of the thoracic portion of the trachea (fig. 5). The repair of the cervical portion appeared to be adequate; there was no

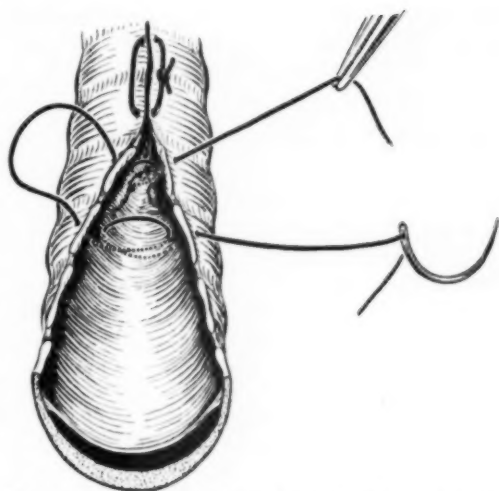


Fig. 4—Schematic drawing of trachea of pony during repair.

evidence of chondrosis or other untoward sequelae and the lumen was nearly cylindrical. It was felt that, had the thoracic portion of the trachea been accessible to surgery, structural and functional restitution could have been obtained.

The subject of etiology in the case is open to conjecture. The absence of degenerative or inflammatory lesions in the tracheal cartilages leads us to the conclusion that the defect was present or latent from



Fig. 5—Photograph of the removed trachea of the pony, showing: (A) the unrepaired thoracic portion; (B) the repaired cervical portion; (C) a cross section of an unrepaired portion; and (D) the esophagus.

the time of birth. It would be interesting to know how many homes the pony had during his thirteen years of life.

Congenital Atresia Ani in a Lamb

On Jan. 23, 1953, a 3-day-old lamb was brought to our clinic because it was bloated. It was believed to have had no bowel movements. Examination revealed the complete absence of the anal opening and anal sphincter muscle. It was also noticed that the lamb had two independent scrotal sacs, each containing one testicle.

Since the lamb was badly bloated, an operation was performed immediately. The anal area was anesthetized by injecting, intradermally, 3 cc. of 2 per cent novocaine, the skin was incised and the cordlike vestigial rectum was followed anteriorly by blunt dissection for about $\frac{1}{2}$ to $\frac{3}{4}$ inch to the ballooned gut. When the gut, presumably the rectum, was incised, gas and feces were released. This organ was then drawn posteriorly and its walls sutured to the skin with interrupted dermalon mattress sutures.

The lamb appeared greatly relieved and proceeded to make an uneventful recovery. The sutures were allowed to slough out.—*Daniel D. Bleicher, V.M.D., and Clayton I. Blum, V. M. D., Fredericksburg, Va.*

New Surgical Technique for Hernia

While some umbilical hernias in calves result from omphalophlebitis, many are congenital, one herd having 12 affected cattle in eleven years. Since tantalum gauze, used in man, is expensive, the use of heavy plastic gauze as an internal support in 30 cases, most of them in 1952, is reported by Dr. A. G. Danks, of New York. Two months is the preferred operative age.

With the calf in dorsal recumbency under general anesthesia, an elliptical section of skin and the entire hernial sac are then resected. The sterile plastic gauze, cut to extend $1\frac{1}{2}$ in. beyond the ring, is placed inside the abdominal cavity and anchored with stainless steel sutures through the wall. The gauze is then sutured to the edge of the open hernial ring with a continuous stainless steel suture. Next, the subcutaneous fascia is drawn across the opening and sutured with stainless steel. The skin is closed with nylon dermal sutures of the interrupted, perpendicular mattress type.

Of the 30 cases reported, all but 5 animals made satisfactory recoveries. Of the 5, 4 presented complications so there was only one true failure.

Males with hernias are seldom operated on since they should not be used for breeding but, if they are, the flap method of reflecting, then restoring, their prepuce is used.—*Southwest Vet., Fall, 1953.*

Correction of a Vertebral Fracture

A compression fracture of a vertebra usually causes an irreparable paralysis as the result of extradural pressure or severance of the cord. However, when a normal contrast spinogram of a 2-year-old dog, which was hit by a car the day before but was able to stand, revealed a compression fracture with dorsal displacement of the fourth lumbar vertebra, an operation was performed immediately.

The musculature was separated from the spinous processes of the L4, L5, and L6 vertebrae and No. 1 Wilson laminectomy plates were secured on either side with bolts through the L4 and L6 spinous processes. The fragment was pressed into place while the adjustment was being made. In three days the dog walked normally. However, radiographs later indicated that a better alignment would have resulted had a bolt been inserted through the L3 spine also.—*Auburn Vet., Fall, 1953.*

Asymptomatic Spinal Fractures

Vertebral fractures in the osteoporotic spines of aged people contrast sharply with those which result from trauma in young persons. X-ray examination of 136 persons from 63 to 95 years of age revealed fractures in the lower thoracic or upper lumbar vertebrae of over 25 per cent, usually of the dorso-anterior portion of the body of the vertebrae (the anteroventral portion in quadrupeds). None had a history of injury, symptoms, or treatment, and these fractures had caused no unusual disalignment.—*J. Am. M. A., Oct. 17, 1953.*

A Longer Lasting Local Anesthetic.—Hexylcaine hydrochloride, 10 to 12 cc. of a 2 per cent solution epidurally, is recommended for vaginal or rectal manipulations where postoperative straining is imminent. It acts quickly and is usually effective for eight to ten hours.—*Vet. Scope, Vol. 1, No. 1.*

Adrenogenital Syndrome in a Female Mink

WILLIAM M. DICKSON D.V.M., M.S.;
ROBERT A. KAINER, D.V.M., M.S.;
JOHN R. GORHAM, D.V.M., Ph.D.

Pullman, Washington

The adrenogenital syndrome or, as it is often called, "adrenal virilism," is associated with hyperfunction of the adrenal cortex and is usually manifested by hyperplasia or neoplasia of the adrenal gland. If this condition occurs in the young female, masculinity usually results. The presence of masculine characters can be explained by an increase in the production of androgenic steroids from the adrenal cortex. Adrenal virilism in the cow has been reported in connection with the so-called "nymphomania" syndrome.¹ Adrenal cortical hyperfunction in the bitch has been described by Coffin and Munson.² However, the condition reported by Coffin and Munson was associated with basophilic tumors of the hypophysis cerebri and bilateral symmetrical hyperplasia of the adrenal gland; furthermore, the clinical signs were alopecia, muscular weakness, polyuria, lymphopenia, and eosinopenia. This condition is different from the adrenogenital syndrome and resembles Cushing's disease in man. Mulligan³ mentions one case of cortical adenoma in a dog but did not report the occurrence of clinical signs or genital organ modifications.

This is a report of an 11-month-old female mink which was larger than average. Although several matings were attempted during the breeding season, none was successful because of severe fighting. A short time later, the animal succumbed to unknown causes.

Gross Findings.—At necropsy, the prominent feature was the presence of an enlarged left adrenal gland (fig. 1), 15 by 11 by 9 mm. The enlarged gland did not involve adjacent structures. The external surface showed a smooth capsule with a nodular anterior projection. On cut section, the tis-



Fig. 1—Gross appearance of a cortical adenoma of the left adrenal gland compared with the normal right adrenal gland of a mink.

sue was firm in consistency and creamy white. Neither hemorrhage nor necrosis was evident. The adrenal vessels were enlarged. No gross alteration was observed in the right adrenal gland. With the exception of a considerably enlarged clitoris, the genital tract was poorly developed. The right ovary weighed 52 mg., the left 48 mg. The average weight of the individual ovaries taken from 4 mink of this herd during breeding season was 119 mg. The uterus

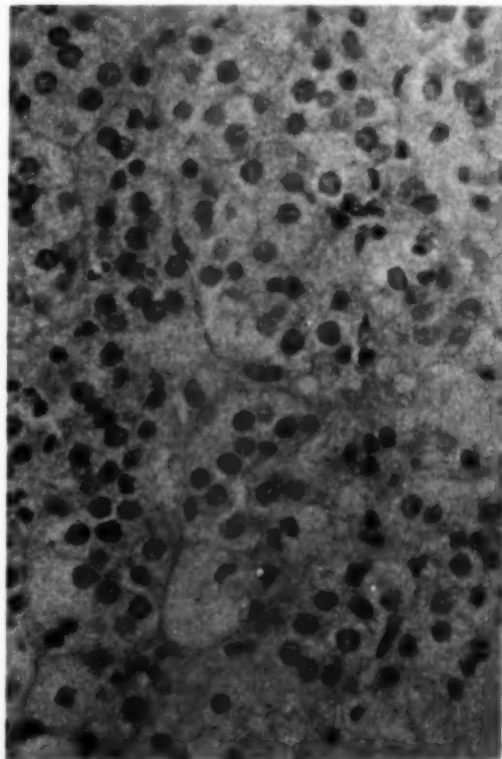


Fig. 2—High power view of the adenoma in a mink, showing cell characteristics. x 250.

From the Department of Veterinary Physiology and Pharmacology, State College of Washington (Dickson), and Bureau of Animal Industry, U. S. Department of Agriculture (Gorham), in cooperation with the State College of Washington, Agricultural Experiment Station, Fur Animal Disease Research Laboratory, Pullman. Dr. Kainer is now with the Department of Veterinary Pathology, Oklahoma A. & M. College, Stillwater.

was small, hard, and avascular in contrast to the large, vascular, spongy uterus found during estrus. Figure 3 compares a uterine horn from the mink with the cortical ade-

perlasia by microscopic criteria. However, the gross appearance and unilateral nature of this lesion indicate the above diagnosis. The size, sexual behavior, and genital de-



Fig. 3a—Cross section of uterine horns from a mink with a cortical adenoma. x 6.

Fig. 3b—Cross section of uterine horns from a normal mink killed during the same breeding season. x 6.

noma and a uterine horn from one of the the normal females. These sections are similar to Ender's⁴ illustrations of anestrus and estrous uteri.

Microscopic Findings.—The left adrenal gland had lost its normal architecture. The cells were arranged in irregular cords without the usual definitive zones. The cytology varied somewhat from normal (fig. 2). The cells were paler, slightly larger, and exhibited considerable variation in size. The cytoplasm was nonvacuolated. Larger, but otherwise normal appearing, nuclei contained definite nucleoli. An average of two mitotic figures per field was observed. Hyperemia was not evident, but a large area of necrosis was present. The right adrenal gland appeared to be normal. Microscopic examination of sections from the liver, spleen, pancreas, stomach, uterus, ovary, cerebellum, cerebrum and orbit revealed no metastases. The small ovaries presented the appearance of anestrus organs.

The diagnosis was cortical adenoma* associated with adrenal virilism. It is difficult to differentiate adrenal neoplasia from hy-

perlasia by microscopic criteria. However, the gross appearance and unilateral nature of this lesion indicate the above diagnosis. The size, sexual behavior, and genital de-

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Separation of the Uterus in a Cat

A 3-year-old cat, which two years previously had given birth to a litter, had a maximal distension of the abdomen and seemed dehydrated and toxic. Laparotomy revealed that the enormously distended uterus was filled with a nonodorous cocoa-colored fluid and was no longer attached to the vagina. After its removal, the cat made an uneventful recovery. The uterus and ovaries seemed normal except for the pyometra.—*Vet. Rec.*, April 24, 1954.

*The authors acknowledge the assistance of Gordon Worley, Jr., M.D., State Laboratory of Hygiene, State of Wisconsin, Madison, for his confirmation of their diagnosis.

CLINICAL DATA

Preliminary Studies on the Prophylactic Value of Type "A" Vesicular Exanthema Immune Serum

S. H. MADIN, D.V.M.

Berkeley, California

THE CONTROL of vesicular exanthema of swine is a complex and difficult problem. The usual methods of "spot" quarantine of areas or premises known to have the disease, the restrictions on movements of swine, and the clean-up campaigns have all helped to control the dissemination of the virus, but they have not made real progress toward eradication of the disease. The principal reason for this is simply that such measures are not designed to attack the virus but, rather, are calculated to restrict the mechanisms which make the virus mobile.

In California, there are two types of ranches on which market swine are raised. One is the so-called "garbage-feeding" ranch on which raw garbage is fed almost exclusively, and the other is the "grain-feeding" ranch. The incidence of the disease on these two types of ranches has been overwhelmingly greater on the garbage-feeding premises despite the fact that they are greatly outnumbered by the grain-feeding ranches. It is believed that the high incidence of the disease on garbage-feeding premises is due principally to the constant introduction of virus from contaminated raw pork found in garbage. On grain-feeding ranches, the virus appears rarely and, to date, has never reappeared on the same ranch.

The marked difference in the incidence of disease on these two types of premises suggests one obvious method of control, *i.e.*, the prohibition of the feeding of raw garbage to swine. In recent months, considerable and encouraging progress has been made toward obtaining suitable legislation in many states to eliminate raw garbage as swine food. It is hoped that eventually such legislation will eliminate raw garbage as a vector of animal disease.

From the Department of Bacteriology, University of California.

Grateful acknowledgement is made to Paul Andriese and Doris Clinger for their valuable technical assistance.

In addition to the elimination of raw garbage as a disease vector, other methods may also be helpful. These include the use of vaccines and immune serums. While it is possible to produce an effective vaccine on a laboratory scale,¹ the present inability to produce antigenic material in adequate quantities for field use does not permit consideration of vaccines at the present time.

The use of immune serum as a prophylactic measure to confer temporary immunity has not been reported. Such a procedure would be of value in protecting swine during shipment, while awaiting slaughter or in other circumstances, or as an aid to quarantine measures. This paper is a preliminary report on the value of immune serum against one of the antigenic types of vesicular exanthema virus.

MATERIALS AND METHODS

Preparation of Immune Serum.—The immune serum was prepared in swine by the inoculation of 0.5 ml. of a 1:10 dilution of "A" type vesicular exanthema virus into 5 test animals. All inoculated animals responded with typical symptoms of vesicular exanthema. They were allowed to convalesce for a period of twenty-one days and then were reinoculated with 0.5 ml. of the virus intradermally and 0.5 ml. subcutaneously. No clinical evidence of the disease was noted after the second inoculation of virus. Ten days later, these animals were bled and their serums were pooled and preserved with 1:50,000 merthiolate solution.

Challenge Virus.—The challenge virus consisted of a 1:10 dilution of a 10 per cent tissue suspension of type "A" vesicular exanthema virus.

EXPERIMENTAL

A series of 30 pigs, ranging in weight from 15 to 60 lb., were inoculated subcutaneously, into the right axillary space, with 10 ml. of serum per animal. No unpleasant side reactions were noted following the inoculation of this serum. These

¹Madin, S. H., and Traum, J.: Experimental Studies on Vesicular Exanthema of Swine. *Vet. Med.*, 10, (Oct., 1953): 395-400; and 11, (Nov., 1953): 443-450.

animals were then separated into three groups of 10 animals each: Group 1 was challenged at seven days, group 2 at fourteen days, and group 3 at twenty-eight days. Three control animals not previously treated with serum were added to each group, making a total of 13 animals per group.

Challenge of the pigs in these three groups was identical. In each group, the following schedule was used: Three serum-treated animals received 0.75 ml. of virus intramuscularly, 4 received this same amount intradermally into the snout and upper lip, and the remaining 3 received no virus but served as contact-exposed animals. Two of the control animals were given 0.75 ml. of virus intradermally into the snout and upper lip, while the remaining control received 0.75 ml. intramuscularly.

All animals of a particular group were kept together in the same pen from the time of challenge throughout the observation period of twenty-one days. All animals were checked daily for the

first six days and every second or third day for an additional fifteen days.

RESULTS

The results obtained with all groups are shown in table 1. The 3 control animals in group 1, test pigs 163, 164, and 165, responded with typical symptoms of V.E. including extensive primary and secondary lesions. The serum-treated animals in group 1 showed no evidence of the disease, with the single exception of pig 133. This animal reacted with a very small vesicle, without inflammatory response, which appeared at the site of inoculation seventy-two hours after challenge. The lesion extended slightly during the next twenty-four hours and then began to heal. There was no further spread of the virus in pig 133.

In group 2, the control animals again responded with typical symptoms compara-

TABLE 1—Clinical Response of Swine Inoculated with 10 ml. of Homologous Immune Serum Seven, Fourteen, and Twenty-Eight Days Prior to Challenge with Type "A" Vesicular Exanthema Virus* Compared to Untreated Controls

Serum group designation	Test pig (No.)	Challenge schedule		Clinical response
		Route	Amount	
Group 1 received serum 7 days prior to challenge	132	Contact	Unknown	None
	134	Contact	Unknown	None
	135	Contact	Unknown	None
	133	Intradermal	0.75 ml.	Small vesicle, site of inoculation
	137	Intradermal	0.75 ml.	None
	139	Intradermal	0.75 ml.	None
	140	Intradermal	0.75 ml.	None
	136	Intramuscular	0.75 ml.	None
	138	Intramuscular	0.75 ml.	None
	141	Intramuscular	0.75 ml.	None
Controls, no serum	163	Intramuscular	0.75 ml.	Generalized vesicular exanthema
	164	Intradermal	0.75 ml.	Generalized vesicular exanthema
	165	Intradermal	0.75 ml.	Generalized vesicular exanthema
Group 2 received serum 14 days prior to challenge	142	Contact	Unknown	None
	143	Contact	Unknown	None
	144	Contact	Unknown	None
	145	Intradermal	0.75 ml.	Small snout vesicle, site of inoculation
	151	Intradermal	0.75 ml.	Small snout vesicle, site of inoculation
	157	Intradermal	0.75 ml.	Small snout vesicle, site of inoculation
	146	Intradermal	0.75 ml.	Small snout and lip vesicle, site of inoculation
	147	Intramuscular	0.75 ml.	None
	160	Intramuscular	0.75 ml.	Lip and foot vesicles
	161	Intramuscular	0.75 ml.	None
Controls, no serum	166	—	0.75 ml.	Generalized vesicular exanthema
	167	—	0.75 ml.	Generalized vesicular exanthema
	168	—	0.75 ml.	Generalized vesicular exanthema
Group 3 received serum 28 days prior to challenge	152	Contact	Unknown	Tongue vesicle only
	154	Contact	Unknown	Tongue vesicle only
	162	Contact	Unknown	Generalized vesicular exanthema
	148	Intradermal	0.75 ml.	Generalized vesicular exanthema
	149	Intradermal	0.75 ml.	Generalized vesicular exanthema
	155	Intradermal	0.75 ml.	Snout and lip vesicles only
	156	Intradermal	0.75 ml.	Snout and tongue vesicle only
	150	Intramuscular	0.75 ml.	Tongue vesicle only
	153	Intramuscular	0.75 ml.	None
	158	Intramuscular	0.75 ml.	Small snout vesicle only
Controls, no serum	169	Intramuscular	0.75 ml.	Generalized vesicular exanthema
	170	Intradermal	0.75 ml.	Generalized vesicular exanthema
	171	Intradermal	0.75 ml.	Generalized vesicular exanthema

*Challenge virus was a 1:10 dilution of freshly ground epithelial vesicle material.

ble to the controls of group 1. The serum-treated animals in group 2 again showed evidence of protection. The animals exposed only by contact (pigs 142, 143, and 144), as well as 2 animals (pigs 147 and 161) exposed by the intramuscular route, showed no evidence of the disease. All animals challenged intradermally (pigs 145, 146, 151, and 157) showed slight snout lesions at the point of inoculation, but no spread of the virus to any adjacent structure occurred, except in the case of pig 146. None of these 4 animals showed any evidence of generalized infection, no local inflammation, and no anorexia. One animal, pig 160, inoculated via the intramuscular route did show lip and front foot lesions forty-eight hours after the control animals had shown clear-cut evidence of the disease.

In group 3 the results, as shown in table 1, are more characteristic of susceptible swine. Only 1 animal, pig 153, challenged via the intramuscular route, was completely protected. One other animal, pig 155, challenged via the intradermal route, showed snout and lower lip lesions but did not give evidence of secondary lesions on the tongue or feet. All other animals in group 3 exhibited some degree of typical vesicular exanthema. There were certain points of difference in reaction between control animals and serum-treated animals. In the group challenged intradermally, neither the inflammatory changes in the snout tissues nor the pyrexia were as severe as in the control group. In the contact group, 2 of the 3 animals showed only tongue lesions, and the incubation period in these animals was almost identical to that seen in the groups inoculated via the intramuscular route.

Approximately thirty-five days after they had been given serum, all animals in groups 1 and 2 not showing symptoms of vesicular exanthema after challenge were rechallenged with "A" virus. This challenge virus consisted of 0.75 ml. of a 1:10 dilution of "A" virus given intradermally into the snout and upper lip. None of the animals in this rechallenge group (pigs 132, 134, 135, 137, 139, 140, 136, 138, 141, 142, 143, 144, 147, 161) showed clinical evidence of the disease.

It is assumed that these animals acquired an active immunity either by virtue of the parenteral injection of the virus (pigs 133, 137, 139, 140, 136, 138, 141, 147, and 161) or by direct contact (pigs 132, 134, 135, 142, 143, 145).

DISCUSSION

There appears to be no doubt that vesicular exanthema immune serum is effective for as long as fourteen days either in completely protecting swine or in abolishing the generalized response and reducing the severity of the local reactions. At twenty-eight days after inoculation of serum, the majority of animals are essentially susceptible again, the degree of protection being markedly reduced. Animals which have received serum followed by challenge are then actively immune even in the absence of clinical symptoms. Such a response is a highly desirable corollary of serum prophylaxis.

It is reasonable to assume that if the dosage of serum administered is calculated on a suitable weight basis, and if a hyper-immune serum were used, a considerably better degree of protection could be expected than was found here with a single dose of 10 ml. of immune serum per animal. The type of challenge used against this amount of serum represents an extremely severe one and, again, even better results could be expected if the challenge was restricted to natural contact methods.

The effective protection given by this serum under such rigorous test conditions indicates that such a product may have a promising place in the treatment and prophylaxis of vesicular exanthema.

Bovine Actinomycosis

Actinomycosis of the jaw bones in cattle, because it is difficult for drugs to penetrate this area, does not respond well to treatment. Iodides seldom do more than limit the progress of the disease, but good results have been reported when it is possible to inject an oil solution of penicillin into the lesion. In some cases, giving sodium sulfapyridine intravenously or sulfanilamide *per os* has seemed beneficial. The incidence of actinomycosis seems lower than in previous years. The old idea about organisms originating from barley must be abandoned.—*Vet. Rec.*, Jan. 9, 1954.

Congenital Filariasis in Children.—When microfilaria were found in the blood stream of three infants 3 to 90 days old, a systematic search of the placental blood of 436 mothers disclosed microfilariasis in 14, or 3.2 per cent.—*J.Am.M.A.*, April 3, 1954.

Four Cases of Bovine Mastitis Caused by *Klebsiella Pneumoniae*

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KLEBSIELLA PNEUMONIAE has been reported in the literature only twice as the causative agent of acute bovine mastitis. Legrait and Leblois¹ reported one case in France in 1950. Buntain and Field² reported a series of cases in a herd in England in 1952, but there is some doubt as to the identity of the organism isolated.

This report covers four cases of acute bovine mastitis from which *Klebsiella pneumoniae* was recovered. All cows were members of a large institutional herd in which husbandry and sanitation methods were above average. During the thirteen-year period previous to this report, the herd had close veterinary supervision, and *K. pneumoniae* had not been isolated from any animal with bovine mastitis. Nearly all mastitis cases are examined bacteriologically as a part of the regular diagnostic procedure.

CASE REPORTS

Case 1.—A 9-year-old Jersey had a history of a chronic *Staphylococcus aureus* infection in the right hind quarter and *Streptococcus uberis* infections of the other quarters. The three streptococcal infections were successfully treated thirty-nine days before the *Klebsiella* attack, as shown by two negative bacteriological examinations.

When first seen on Nov. 12, 1952,* the animal showed general depression, anorexia, restlessness, and a body temperature of 105 F. The left front quarter was swollen, hot, and painful but without the extensive edema of the underline described by Legrait and Leblois.¹

The treatment administered was an intravenous injection of 500 cc. of a commercial solution of sodium sulfamerazine (7.5%) and sodium sulfathiazole (7.5%) with dex-

trose. This was followed the next morning by 500 cc. of dextrose (50%) intravenously and 1 lb. of a commercial magnesium hydroxide preparation in a gallon of water, given by stomach tube. The body temperature dropped to normal within twenty-four hours.

Milk samples were collected from all quarters four hours after the first systemic treatment. Material from the acutely affected left front quarter consisted almost entirely of a serous fluid. No blood and little solid substance was seen. Bacteriological examination of secretions from this quarter revealed a pure culture of *K. pneumoniae*.

After samples were taken, the affected quarter was infused via the streak canal with 7.1 Gm. (60 mg./Gm.) of oxytetracycline (terramycin® hydrochloride**) in a petrolatum base. This was repeated in twenty-four hours and no other treatment was given.

During the next few days the animal was depressed, had little interest in feed, milk production and water intake were low, and bowel movements were infrequent. The inflammation of the quarter subsided after three or four days; but due to her age and slow recovery, the cow was sent to slaughter six days after the symptoms first appeared.

Case 2.—A 4-year-old Holstein-Friesian with a history of a local acute mastitis in the left rear quarter, caused by an *alpha*-hemolytic *Streptococcus*, had been successfully treated a month before.

On May 4, 1953, the herdsmen found the udder to be abnormal, and examination showed the left front quarter to be swollen, hot, and painful. No edema was evident in any tissues adjacent to the udder. Secretions were scanty and consisted of a serous fluid with a few flecks of pus and/or fibrin. No blood was seen grossly and purulent material did not appear until twenty-four hours later. The body temperature was 106.0 F., with slight general depression and

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The author acknowledges the encouragement and assistance offered by Dr. R. A. Packer; and the cooperation and help of Mr. A. Coletti, superintendent, and Mr. L. Heasty, barn foreman, of the Iowa State College dairy herd.

*Initial examination and systemic treatment conducted by Dr. C. Daugherty, ambulatory clinician, Division of Veterinary Medicine, Iowa State College.

**All terramycin was supplied through the courtesy of C. A. Pfizer Co., Brooklyn, N. Y.

increased respirations. Samples were collected from all quarters for laboratory study, and *K. pneumoniae* was isolated in pure culture from the swollen quarter.

Treatment consisted of 2 Gm. of oxytetracycline intramuscularly and 1, 400-mg. oxytetracycline infusion tube via the streak canal. Six hours later, the body temperature had dropped to 105.1 F., so only local treatment was repeated.

Twenty-four hours after the original treatment, the body temperature was 102.8 F., the cow showed less anxiety, and was eating hay, but there was little change in the quarter which still yielded *K. pneumoniae* in pure culture. Oxytetracycline, 1 Gm., was administered intramuscularly, and 400 mg. was infused into the quarter.

Forty-eight hours after the original treatment, the body temperature was 101.8 F., the appetite was improved, and the inflammation of the quarter was subsiding. No treatment was given. A milk specimen was collected and again *K. pneumoniae* was recovered in pure culture. Clinical recovery was uneventful, with the quarter returning to normal by the tenth day. The milk flow returned to near normal within ninety-six hours after the initial treatment.

Milk samples collected on four of the five days following treatment yielded *K. pneumoniae* each time, although strip cup tests and other gross evidences of inflammation were negative. One infusion tube containing 60 mg. of crystalline oxytetracycline and 20,000 units of polymyxin B sulfate per gram* was given via the streak canal once daily after milking for three consecutive days. During the next twenty days, specimens were collected four times and the organism recovered once. Twenty-six days after the last treatment, a mild, acute, local inflammation occurred in the same quarter, and again *K. pneumoniae* was isolated. The intramammary treatment of combined oxytetracycline and polymyxin ointment was again used daily for three days.

Twelve days later, because mild, local clinical symptoms had once again appeared, another series of the same treatment was given, using two tubes once daily for three days. The organism was not found in the secretions collected on the first day of treatment, but it was isolated from the sample

collected the second day. After this treatment, there was no clinical evidence of inflammation during the following six months, and *K. pneumoniae* was not isolated during any of seven examinations conducted.

Case 3.—This case differs from the others, in that the infection caused only local inflammation of the udder. The patient was a 3-year-old Brown Swiss in her first period of lactation, with no history of previous clinical mastitis. Cultural examination of samples collected at the time of parturition had revealed no pathogens.

On Aug. 20, 1953, the right rear quarter was found to be mildly inflamed with some swelling but not much pain or redness. Secretions were reduced in amount and slightly positive to the strip cup test but otherwise grossly normal. The cow's appetite remained good, and there was no evidence of any generalized reaction.

Laboratory examination of milk samples showed *K. pneumoniae* in pure culture in both rear quarters.

Treatment of the right rear quarter consisted of intramammary infusion of one tube of oxytetracycline (7.1 Gm.) once daily for three days.

On the second day, it was noted that the left rear quarter was also moderately swollen and was slightly positive to the strip cup test. It did not show pain or evidence of increased local temperature. Examination of milk from this quarter again showed growth in pure culture of *K. pneumoniae*.

Treatment of the left rear quarter was the same as the first quarter.

After treatment, both quarters became clinically normal within a week, and *K. pneumoniae* was not isolated from any of seven specimens collected during the following four-month period.

Case 4.—A 6-year-old Holstein-Friesian in her fourth lactation had received no previous treatment although *Str. uberis* had been isolated from the right rear quarter on two occasions. No pathogens had been isolated from the other quarters during previous examinations.

The symptoms caused by the *Klebsiella* infection appeared abruptly and were similar to those in cases 1 and 2. On first examination on Aug. 23, 1953, the body temperature was 106 F., and inappetence and general depression were evident. Three quarters appeared clinically normal, but the right rear quarter was enlarged and pain-

*Supplied by courtesy of C. A. Pfizer Co., Brooklyn, N. Y.

ful. Secretions were not grossly abnormal, although the quantity of milk produced by all quarters was reduced, and the affected quarter yielded the least amount. Cultural examination of milk from the right rear quarter revealed *K. pneumoniae* in pure culture.

The initial treatment consisted of 1 Gm. of oxytetracycline injected intramuscularly, and two 7.1 Gm. tubes (60 mg./Gm.) of oxytetracycline ointment infused into the streak canal of the right rear quarter. Sixteen hours later, her body temperature had dropped to 101.5 F. and her appetite and general appearance had improved. However, the strip cup test had become markedly positive and remained so for several days. One tube of oxytetracycline was infused into the quarter, and this treatment was repeated once daily for three days. No further systemic treatment was given.

The local inflammation subsided following treatment. On the fourth day after the last infusion, although *K. pneumoniae* was not isolated, the strip cup test remained positive, so one infusion tube of combined oxytetracycline and polymyxin B was given daily for three days. Following this treatment, the quarter became clinically normal, and *K. pneumoniae* was not isolated during any of 16 examinations conducted over a three-month period.

BACTERIOLOGY

The organisms isolated from these cows showed typical biochemical reactions of *K. pneumoniae*. They grew well on 5 per cent ox blood-tryptose agar, forming large, rather viscid, entire, smooth, gray-white colonies which tended to coalesce. Growth was profuse on eosin-methylene blue agar, but no metallic sheen was formed. Growth in infusion broth was abundant with formation of a pellicle and a flocculent sediment.

The microorganisms were gram-negative, nonmotile, encapsulated, and occurred singly and in pairs. They were coccoid rods, plump, with rounded ends, measuring 1.6μ by 2.3μ with a capsule stain, and 1.1μ by 1.7μ with Gram's or methylene blue stain. Direct smears from heart blood of inoculated mice demonstrated organisms staining bipolar with Wright's method.

None of the strains of the organism caused hemolysis of 5 per cent ox blood agar when grown as surface colonies. The

following carbohydrates were fermented with the formation of acid and gas: lactose, sucrose, dextrose, maltose, mannite, arabinose, galactose, raffinose, rhamnose, salicin, sorbitol, trehalose, xylose, and inositol. The strains from cases 2, 3, and 4 also fermented dulcitol. Inulin was not fermented. Nitrates were reduced. Litmus milk was acidified, coagulated, and reduced. Hydrogen sulfide was not formed nor was gelatin liquefied. Indol was not formed. Acetyl methyl carbinol was produced. The methyl red reaction was negative. Urea was attacked.

Studies of the antigenic patterns* showed the strains from cases 1 and 4 to be *K. pneumoniae*, related to but not identical with types 17 and 19; from case 2 to be *K. pneumoniae*, type 16; and from case 3 to be *K. pneumoniae*, type 4.

Experiments were conducted to determine pathogenicity of the strains from cases 1 and 2 for laboratory animals. A 24-hour infusion broth culture was injected intraperitoneally and the animals observed for symptoms and death. In several instances, the subjects showed depression and increased respirations as soon as five hours after inoculation. Results of the experiments are shown in table 1.

TABLE 1—Laboratory Animal Inoculations

	Amount of inoculum intraperitoneally	No. of animals	Time within which death occurred
Case 1	1.0 ml.	2 mice	15 hours
	1.0 ml.	1 guinea pig	15 hours
	0.1 ml.	2 mice	16 hours
			(only 1 death)
	0.25 ml.	1 mouse	62 hours
Case 2	0.1 ml.	3 mice	15-38 hours
	0.5 ml.	3 guinea pigs	18 hours
	0.25 ml.	3 mice	14-26 hours

All animals which died were autopsied and the liver and heart blood cultured. *Klebsiella pneumoniae* was routinely isolated in pure culture from those organs. Direct smears of heart blood stained by Wright's method showed plump, bipolar-staining rods. Capsules were not seen in the blood smears with this method.

DISCUSSION

These 4 cases demonstrate that *K. pneu-*

*Antigenic structures determined by courtesy of Drs. P. R. Edwards and W. H. Ewing, Department of Health, Education and Welfare, Communicable Disease Center, Chamblee, Ga.

moniae is able to produce an acute inflammation of the bovine udder. In all cases, the organism was recovered in pure culture from secretions from the inflamed quarter and could not be found after treatment had been effected. In one case, the infection had not been overcome by local oxytetracycline therapy, and activity of the organisms was shown very clearly by the continuation of clinical symptoms and reisolation of the organism after treatment was stopped. *Klebsiella pneumoniae* had not been isolated from any of the quarters prior to the described attacks. In the instances where *Str. uberis* had been found previously, it was absent during this attack. The cow with infection in two quarters was in her first lactation and had shown no mastitis before this attack.

The symptoms of the three cases were similar and closely resembled those described by Legrait and Leblois. Generally, the course of the infection paralleled that caused by such organisms as *Staphylococcus aureus* and *Streptococcus zoëpidemicus* in the udder. The symptoms, including a high temperature, appeared abruptly and severely in the udder and systemically. None of the cases were allowed to progress untreated, but from the severity of the symptoms it is apparent that the condition could have resulted in the death of the animal. The case described by Legrait and Leblois terminated fatally.

The changes produced in the udder and the milk were of the type usually seen in acute mammary infections and were most severe in the cases with a systemic reaction. Serous fluid was predominant in the secretions of the systemic cases, while local infections caused the milk to be watery appearing but not serous. The exudate was not diagnostic in its appearance, but blood was not grossly visible in any case.

No controls were available for comparison, but it appears that the antibiotic was effective in aiding the control of general symptoms. The treated animals, except for the udder, became clinically normal soon after therapy and did not suffer a relapse. The animal which was treated with sulfonamides did not appear to respond as quickly or as completely as those treated with the antibiotic alone.

Results of local treatment with oxytetracycline were variable. Case 1 was inconclusive since the animal was sent to slaughter

six days after the appearance of symptoms. In case 2, the organisms were not eliminated from the milk by the local oxytetracycline therapy, but treatment with an infusion mixture of oxytetracycline and polymyxin was successful. Oxytetracycline was effective in completely eliminating the infective organism from the two quarters infected in case 3.

There is some question as to which of the therapeutic agents actually controlled the local infection in case 4. During the first three days, while oxytetracycline was being administered, *K. pneumoniae* was isolated each time from samples collected before treatment. Four days later, when oxytetracycline and polymyxin therapy was begun, examination of the secretions failed to reveal the organism. The oxytetracycline-polymyxin mixture was then used locally for three treatments and *K. pneumoniae* was not isolated during any of 16 examinations conducted during the following three months.

The treatment of these cases was based on clinical indications, as it was not possible to await results of bacteriological examinations before therapy was started. Had this been possible, the results of the local therapy in case 4 would be more clear.

No conclusions could be reached as to the possible source of the microorganisms in the 4 cases. If all strains had been of the same antigenic type, it might be assumed that all the infections originated from the same source, even though they occurred months apart. However, three different antigenic types were isolated from the 4 cases. Moreover, the chances of direct contact between the cows or their mammary secretions were slight. They were stanchioned in separate parts of the barn, were never milked in their stanchions, and appeared in the milking room at different times. Sanitation in the milking pit was excellent and all milking machine teat cups were held in water at a temperature of 170 F. for five minutes between each use.

Some attempt was made to find a human source of the infections. The herdsmen were questioned for any history of chronic upper respiratory ailment, but no such cases were found. Throat cultures were not made.

Thus, it appears that several strains of *K. pneumoniae* are able to cause inflammation of the bovine mammary gland. The

various strains might originate from either a human or animal source, but more probably from the habitat of the cow. More work is needed before this problem can be solved.

Klebsiella pneumoniae is usually associated with infections in man and has been isolated only occasionally from infections in lower animals. However, even though only three reports have been made of the infection in the bovine udder, the significance of it must not be underestimated. It is another agent which must be added to the already long list of those causing mastitis of the cow.

The occurrence of Friedländer's bacillus in an acute or chronic inflammation of the bovine udder could constitute a menace to the public health—especially in areas where raw milk is consumed, but also in instances of faulty processing or handling of pasteurized fluid milk and milk products.

SUMMARY

1) Four cases of acute bovine mastitis, involving five quarters, caused by *Klebsiella pneumoniae* are reported and a description of the organism is given.

2) The five strains isolated were of three different antigenic types and were probably of different origin. The strains found were: *K. pneumoniae*, type 4; *K. pneumoniae*, type 16; and *K. pneumoniae*, related to, but not identical with, types 17 and 19.

3) Oxytetracycline (terramycin®) therapy was of value in relieving systemic symptoms in 2 cases but, locally in the quarters, it failed to eliminate the organisms from the milk, although local administration of combined oxytetracycline and polymyxin B sulfate was successful. In another case, the organism was eliminated by oxytetracycline alone, and recovery of the last case may have been due to either oxytetracycline alone or in combination with polymyxin.

References

¹Legrait, J., and Leblois, Ch.: Mammite à bacille de Friedländer (*Klebsiella Pneumoniae*) chez la Vache laitière. Bull. Acad. vét. France, 23, (1950): 469-471.

²Buntain, D., and Field, H. I.: An Outbreak of Mastitis in Cattle Due to Infection with an Organism of the Friedländer (*Klebsiella*) Group. Vet. Rec., 65, (1953): 91-93.

Arterial Occlusions and Lameness.—The syndrome of intermittent claudication was first described by a French veterinarian in 1831. The differentiating symptom of vascular insufficiency to a limb are the rapid onset and increase of pain in proportion to the muscular exercise; the quick disappearance of pain on cessation of exercise; a diminished or absent peripheral pulse; pallor of the extremity; and a constriction of the artery as revealed by an aortogram. —*J. Am. M. A.*, April 3, 1954.

Bovine Bacillary Hemoglobinuria.—*Clostridium hemolyticum*, the etiological agent in bacillary hemoglobinuria, was found to survive in the bone marrow of animals dead for six to twelve months. One isolation was made from a partially burned bone. The bacteria were also recovered from bones stored on the roof of a building exposed to the weather for a year. —*Montana State Coll. Farmer*, Feb., 1954.

Stomach Worms versus Phlebotomy in Lambs.—Lambs heavily infected with *Haemonchus contortus* become anemic presumably from the continual blood-sucking action of the parasite. When the blood lost to parasites was estimated and a similar volume of blood removed daily from non-infected mates, to maintain a comparable hemoglobin level, there was no significant difference in weight gains of the two groups. The anemia was less severe when trace minerals and steamed bone meal were added to the ration. —*J. Anim. Sci.*, Feb., 1954.

Pathogenicity of Capillaria in Fowl.—In Germany, *Capillaria caudinflata* invaded the epithelium of the intestinal villi but the micropathology produced was small in comparison with the anemia, emaciation, and deaths caused by the absorption of toxins. Since the earthworm is an intermediate host, control of this parasite is difficult. —*Vet. Bull.*, Feb., 1954.

Malignant Catarrhal Fever.—A new means of diagnosing this bovine encephalitis, which is caused by an ultramicroscopic agent, was introduced when it was found to produce acidophilic intracytoplasmic inclusion bodies in neurons of the medulla oblongata. —*M. S. C. Vet.*, Winter, 1954.

Field Use of Avianized Canine Distemper Vaccine

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IN A PRELIMINARY report,¹ the experience with avianized[®] canine distemper vaccine routinely used in 100 dogs was presented. No postvaccination reactions, other than slight febrile reactions of short duration, were encountered, and the dogs proved solidly protected when exposed to clinical distemper or when they were maintained under conditions favorable to transmission of distemper, such as field trials and bench shows. The present report represents approximately three years' experience with this vaccine in 1,114 dogs.

As in the previous report, an attempt was made to avoid vaccinating dogs with a history of previous febrile disease and, to our knowledge, none had received any other form of distemper prophylaxis. General physical condition varied from poor to excellent, but vaccination was delayed only in visibly sick or heavily parasitized animals. Except in special cases where definite exposure was evident, antiserum was not used with the vaccine.

RESULTS

Of the total of 1,114 dogs vaccinated, 140 were returned within five to ten days to be examined for reaction to vaccination. The temperatures of 112 dogs were normal. Elevated temperatures, ranging from 102.6 F. to 104.0 F., were noted in 28 dogs and, in some, examination revealed infection such as tonsillitis or enteritis. In all cases, temperatures returned to normal within two to three days. No other reactions were noted.

The conditions of our practice are such that excellent follow-up was possible. Over the three-year period, 635 of the vaccinated dogs were considered to have had exposure to distemper either by hospitalization, in field trials or bench shows, or in kennels. An additional 211 vaccinated dogs were

checked when they were returned to the hospital as out-patients for other immunization, grooming, and the like. Of the total dogs vaccinated, 20 were evidently infected with distemper at the time of vaccination, 12 of which died or were destroyed. Distemper breaks were suspected in 24 cases (2.2%), 8 of which died or were destroyed. The details of these cases follow.

Kennel Outbreak.—Twenty dogs which had been exposed before, or at the time of, vaccination were maintained in one large field trial kennel where approximately 150 dogs of all ages are kept at all times. The 20 dogs were vaccinated on July 28, and four to five days later they became ill. Treatment consisted of antibiotic therapy (aureomycin, penicillin), fluid therapy, vitamins, and 2 cc. of viral-bacterial vaccine (virogen), four to five injections administered every fourth day. It is of interest that the viral-bacterial vaccine apparently did not reduce mortality. Despite treatment over a three- to five-week period, 12 dogs died in convulsions or were destroyed because of advanced chorea. Tissues from 1 dog were submitted to the laboratory for examination, but the ferret test was negative for distemper, although clinically we considered this a classical distemper outbreak.

Shortly after the appearance of infection in these dogs, 14 other dogs vaccinated on May 27 showed moderate anorexia, elevated temperatures, listlessness, cough, slight discharge from the eyes and nose in some cases, and about a 10 per cent weight loss. Following treatment with chlortetracycline (aureomycin) for seven days, all recovered within three weeks with the exception of 1 which developed mild chorea and was destroyed. Blood samples from 4 of the 14 dogs were checked by the complement-fixation test; two carried appreciable titers for hepatitis, one was suspicious, and one negative. The illness of these 14 dogs was classified as a suspected distemper outbreak, although apparently a mild one and possibly complicated by infectious hepatitis virus. No symptoms were observed in other vaccinated dogs on the premises.

¹Drs. Scanlon and Barndt are small animal practitioners in Narberth, Pa.

²Scanlon, E. J., and Fisher, G. W.: Preliminary Report on the Field Use of Avianized Distemper Virus in 100 Dogs. *Vet. Med.*, 46, (1951):432-434.

³Canine distemper vaccine, modified live virus (chicken embryo origin — vacuum dried) avianized, is a product of Lederle Laboratories Division, American Cyanamid Company, Pearl River, N.Y.

The experience in this outbreak suggests that, where numbers of dogs are maintained in a distemper- or hepatitis-contaminated environment, simultaneous administration of distemper-hepatitis antiserum and vaccine might be indicated.

Suspected Distemper Breaks.—Only symptomatic diagnoses were made in the suspected distemper breaks.

Case 1.—One puppy, vaccinated when 3 months old, was returned to the hospital for boarding at 7 months of age. About two weeks following release, this pup was returned with a history of intermittent diarrhea. In spite of treatment with antibiotics, antisera, and fluids, convulsions developed and death followed in nine days.

Cases 2 to 5.—A litter of 4 puppies, born and maintained at the hospital, was vaccinated at 6 weeks of age. At 9 weeks of age, symptoms of distemper appeared. Following treatment with antibiotics and antisera, and supportive therapy, 3 returned to normal and 1 was destroyed when chorea developed.

Cases 6 to 10.—These 5 dogs, separately owned, showed symptoms ordinarily associated with distemper at various times within one to two years following vaccination. Although routine therapeutic measures were applied, all died.

COMMENT

The satisfactory results of our original limited trial with avianized canine distemper vaccine created increased interest in an extensive study of this product. Its use in our practice is now routine, and some of the observations made over a three-year period in 1,114 dogs may be of interest and value to other practitioners.

Animals can be vaccinated at an early age. We vaccinate puppies 8 to 10 weeks of age, with excellent results. If an animal is to be spayed, we prefer that vaccination be accomplished two weeks before the operation. However, in some instances, the operation has followed vaccination in forty-eight to seventy-two hours, with good results. Except when dogs have been less than 8 weeks old when vaccinated, no booster doses have been given following vaccination with avianized vaccine, and serum is not administered when dogs so vaccinated are hospitalized. The results indicate that this is a safe, effective, and practical method of immunization.

SUMMARY

1) Over approximately a three-year period, avianized® canine distemper vaccine has been used routinely in 1,114 dogs.

2) Of these, 635 (57%) were at some time maintained under conditions favorable to distemper exposure, with no signs of the disease, even though neither booster doses nor antiserum were administered.

3) Of 20 dogs infected with distemper at the time of vaccination, 12 (1.08%) died or were destroyed.

4) Clinical distemper breaks were suspected in 24 dogs (2.2%), 8 of which died or were destroyed.

Simplified Comparison of Man-Dog Age

The JOURNAL (March, 1954:236) contained an abstract from a French journal in which it was shown that a dog's age can not be compared to man's age by the use of a fixed coefficient. In the practical application of this information, a simplified formula can be used. From table 1 in the abstract, the following figures are taken:

Dog's Age	Man's Age
6 months	10 years
12 months	15 years
18 months	20 years (+3 mo.)
24 months	24 years

Thus, for each six months of the dog's life, from the sixth to the eighteenth month, the comparable age in man increases by five years; and at 2 years, the number of months in the dog's life are equal to the years in man. Beyond 2 years of age, the dog's maturity rate slows, each year being the equivalent of four years in man. Therefore, counting twenty-four "man" years for the first two "dog" years, and adding four man years for each additional dog year, the equivalent age in man of a 10-year-old dog would be calculated: 24 years plus 32 (4 x 8) would be 56 years; a 16-year-old dog—an 80-year-old man; and a 21-year-old dog is comparable to a 100-year-old man.—Clyde F. Cairy, D.V.M., East Lansing, Mich.

Breath that smells of urine is characteristic of canine leptospirosis.—L. M. Borst, Jr., D.V.M., Indiana.

Incidence of Infection of Dogs and Fleas with *Dirofilaria immitis* in Florida

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DURING THE period of May, 1950, through July, 1953, the development and behavior of *Dirofilaria immitis* larvae in fleas were studied. In the course of this investigation, secondary objectives were to establish: (1) the incidence of infection of dogs in central Florida, and (2) whether any particular breed of dog is more apt to have the infection than another. The secondary objectives were a natural outgrowth of the primary ones.

Conflicting statements exist with regard to the incidence of infections in long-haired, as opposed to short-haired, dogs; therefore, it became of interest to determine whether there was a real correlation. Hall, Price, and Wright,⁷ in 1934, reported that short-haired dogs are more susceptible to heartworms than are long-haired dogs, probably because they have less protection from mosquito bites. Other workers^{2,8} found the highest incidence of infection among long-haired dogs. Brown,³ having discovered slightly heavier infections in long-haired dogs, suggested that fleas and lice infested dogs more successfully when the hair was long and they should naturally be suspected as being intermediate hosts of *D. immitis*. A brief examination by this author of a small sample of *Ctenocephalides felis* showed that perhaps his supposition was correct as he found microfilariae, which he did not attempt to identify, in several of them.

INCIDENCE OF INFECTION

In this study, 142 dogs ranging from approximately 4 months through 12 years of age, were examined. When a dog was examined, it was given a case number and the following data were recorded on work sheets: (1) the breed of the dog; (2) whether it was long-haired or short-haired; (3) age (actual or approximate); (4) results of blood smear made from blood sample taken; (5) results of the necropsy if the dog was destroyed; (6) results of the number of fleas of which the sex had been determined and which had been dissected (tables 1 and 2.).

This study was made while the author was at the University of Florida, Gainesville; he is at present a member of the faculty of the Department of Biology, Arlington State College (Texas A. & M. System), at Arlington, Texas.

The writer expresses his gratitude to Dr. Lewis Berner under whose direction this work was carried out.

The 1,203 fleas collected from 71 of the 142 dogs examined during this investigation were removed from both infected and noninfected dogs. As *Ct. felis* was found to be the most prevalent flea on dogs in central Florida, efforts were concentrated on this species. The other genera and species of fleas occasionally found on dogs were collected and colonies were maintained in the laboratory for breeding and additional experiments. The species used were *Ctenocephalides canis*, *Xenopsylla cheopis*, *Pulex irritans*, *Echidnophaga gallinacea*, and *Orchopeas wickhami*, as classified in 1940 by Fox.⁶

Of the 342 male and 861 female *Ct. felis* collected and dissected, *D. immitis* larval development were present in 111 males and 335 females. The preponderance of female fleas collected and subsequently dissected was due to their greater size and ease of collection. Many male fleas were seen but proved to be more elusive than the large, egg-laden females. Results of the collections and dissections are summarized in table 1.

The presence of microfilariae and early larval stages was observed in more than the 446 specimens which showed advanced stages. As it was hoped to establish the fact that the flea was not a refractory intermediate host, in which limited development took place, the earlier stages in recording positive findings in this series of dissections were disregarded. All advanced "sausage stage," pre-infective, and infective stage larvae were found in the hemocoel of the abdomen and thorax.

Under natural conditions, 35 per cent of all the fleas collected were found infected with larvae in advanced stages of development. On several occasions, fleas were observed moving from one dog to another when the dogs were in close contact. Fleas have also been observed to drop from an infected dog and later to attach themselves to another dog. Thus, with their high incidence of infection, fleas, as intermediate hosts, can readily spread the parasite from one animal to another through direct contact.

Blood Smears.—In the early stage of the investigation, the blood of dogs was checked for microfilariae using the technique described by Phillips.¹² A large drop of blood from a tiny incision on the inner surface of the ear was placed on a glass slide, a

checking Hinman's⁸ paper on *D. immitis* periodicity, it was concluded that a better technique for sampling blood was necessary, since adult fertile female filariae were present and periodicity was not too marked.

Several techniques, as listed in various

TABLE 1—Incidence of Infection of *Dirofilaria immitis* Larvae in *Ctenocephalides felis*

Breed	No. exam-ined	No. without fleas	No. of fleas dissected			Fleas with advanced development of microfilariae		
			Male	Female	Total	Male	Female	Total
Shepherds	7	2	30	34	64	3	14	17
Collies	7	2	25	58	83	5	29	34
Poodles	4	2	8	17	25	—	4	4
Chows	3	1	17	41	58	5	26	31
Cocker Spaniels	10	5	10	25	35	1	10	11
English Setters	4	1	2	148	150	2	12	14
Hounds	33	6	149	375	524	51	155	206
Bulldogs & Boxers	7	—	26	22	48	11	14	25
Fox Terriers	12	6	30	36	66	14	19	33
Mongrels	49	40	45	105	150	19	52	71
Totals	136	65	342	861	1,203	111	355	446
Percentage of infection						32%	39%	35+%

cover slip was placed on the drop, and the blood immediately examined with a magnification of 440. On four occasions, however, when smears were negative, necropsy revealed that adult filariae, both male and female, were present. The adult females taken from the dog's heart were immediately cut into segments, about 8 mm. long, placed in a Petri dish containing physiological saline, and examined under a dissecting microscope with a magnification of 120. As the contents of the various segments were removed with dissecting needles, great numbers of active prelarval microfilariae were observed. After

laboratory texts, were tried; the following proved satisfactory:

A minimum of 2 cc. of blood was withdrawn from the saphenous vein below the patella of the dog, using a hypodermic syringe equipped with a 22-gauge needle. The drawn blood was then discharged into a small, capped vial previously rinsed with a solution of heparin. When necessary, the blood samples were stored at about 6 C. for several days. The contents of the vials were then centrifuged at 3,600 r.p.m. for eighty seconds, the supernate poured off, and the concentrate spread on slides and dyed with Wright's stain.

In 1951, Burch and Blair⁴ described a method which incorporated the refinements originally lacking in this technique.

RESULTS

Of the 142 dogs examined, 89 had positive blood smears, indicating the presence of microfilariae. Since the time of development of the infective larva stage to the adult filaria was estimated⁷ as being a little over eight months, all younger dogs theoretically should have been subtracted from the total number examined for microfilariae of *D. immitis*. The incidence of infection would rise from 63 to 77 per cent if the 28 dogs less than 8 months of age were subtracted. However, these dogs were included because 2 of them, known to be less than 7 months of age, were found to have microfilariae in their blood. Furthermore, Augustine² reported 2, 5-month-old Cocker

TABLE 2—Incidence of Infection of *Dirofilaria immitis* in Dogs

Breed	Hair		Age (Yr.)	Blood smear		Necropsy		Necropsy not performed
	L.	S.		Neg.	Pos.	Neg.	Pos.	
Shepherds	7	—	3-5	—	7	3	3	1
Collies	7	—	1-2	—	7	1	3	3
Poodles	4	—	3-12	—	4	—	3	1
Chows	3	—	3-5	—	3	—	3	—
Cocker Spaniels	10	—	1-5	3	7	2	1	7
English Setters	4	—	7-10	—	4	—	1	3
Hounds	—	33	1½-9	4	29	4	18	11
Bulldogs & Boxers	—	7	2	—	7	—	3	4
Fox Terriers	—	—	10 mo.-9 yr.	5	7	2	7	3
Wire-Haired and Skye Terriers	6	—	7 mo.-1½ yr.	5	1	—	—	6
Mongrels	5	44	4 mo.-9 yr.	36	13	9	12	28
Totals	46	96	—	53	89	21	54	67
Percentage infection	79	54	—	—	—	—	—	—

Spaniels as being infected. He stated: "The examination of the mother's blood was negative for microfilariae. If prenatal infection did not occur, the absence of the infection in the mother may indicate a decided preference of the infective stage of the parasite from the mosquito for fetal tissue, such as is known to be true of the infective stages of an ascarid, *Toxocara canis*, and hookworm, *Ancylostoma caninum*, in prenatal infections in dogs."^{1,5}

Necropsies were performed on 75 of the 142 dogs examined, because of extensive injuries or disease. The organs which might contain adult filaria were examined in this sequence: (1) the chambers of the heart; (2) postcaval vein (inferior vena cava); (3) pulmonary arteries; (4) lungs; (5) thoracic cavity; (6) diaphragm; and (7) mesentery.

Adult *D. immitis* were usually found in both the right auricle and the right ventricle. In severe cases, an appreciable number were found in the pulmonary artery, and some in the lungs. The majority of the necropsies revealed about 12 to 18. In one case, 109 adult filariae were found in the heart and 13 in the pulmonary arteries. (In 1883, Megnin¹¹ reported several hundred adult filariae present in the heart of one infected dog.)

The worms, when present in great numbers, were interlaced in an almost inextricable way into huge masses which, to some extent, obstructed the cavities of the heart. The filariae were partially wound around the chordae tendineae and with the unattached ends of their bodies free in the lumen.

Adult filariae were found in 54 animals. In 4 of these, the blood smears showed no evidence of microfilariae. The adult male filariae and female were present in each of these 4 exceptions. Dissection of the female filariae revealed that they were fertile. Fortunately, these necropsies were performed during the early stage of the study and emphasized the need of a more accurate method of preparing blood smears.

Later in the study, examples were found in which the blood smears were positive, but no adult filariae were found. Underwood and Harwood¹³ reported the maximum life span of the microfilariae of *D. immitis* as being 2 years and 4½ months in the circulating blood of an infected dog. When 8 cases of infection showed the presence of microfilariae

and a thorough necropsy revealed no filariae, it was assumed that the adults had died and had been subsequently fragmented. Leidy,¹⁰ on two occasions, witnessed the actual vomiting of living filariae which probably had been dislodged from the right side of the heart and were transported through the pulmonary arteries to the lungs, from which they were discharged after severe fits of coughing.

INCIDENCE IN LONG- AND SHORT-HAIRED DOGS

Of the dogs examined, 46 were long-haired and 96 short-haired. Most of these dogs represented 12 distinct breeds, but 49 were nondescript mongrels. Blood smears were positive for microfilariae in 37 (79%) of the 46 long-haired dogs, and in 52 (54%) of the 96 short-haired dogs. Necropsy findings on specific cases showed no difference between long-haired and short-haired dogs as to the intensity of adult filarial infection. These findings were not in agreement with those of Hall, Price and Wright,⁷ as mentioned earlier.

Apparently, the breed of the dog has no influence on susceptibility to *D. immitis*. This conclusion is based on the study of 93 dogs which fell into 12 distinct breeds. Also, in the cases where necropsies were performed, there was no breed difference in the intensity of adult filarial infection.

The low level of infection in the mongrels is doubtless due to their age and not an indication of resistance to *D. immitis*. Of the number examined, 26 were puppies between the ages of 4 to 10 months. Their blood smears were all negative, probably because they had not been exposed to prenatal infection.

SUMMARY AND CONCLUSIONS

1) Of 1,203 *Ctenocephalides felis* collected from 71 dogs, 35 per cent were found to be infected with *Dirofilaria immitis* larvae in advanced stages of development.

2) Of 142 dogs examined, 63 per cent had positive blood smears, indicating the presence of microfilariae of *D. immitis*.

3) There was no evidence in dogs of breed resistance to *D. immitis*, nor was the intensity of infection dependent on whether a dog was long-haired or short-haired.

4) Because of the high percentage of infected fleas found under natural conditions

and because of the close association between dogs and fleas, these parasites are probably the natural vectors of canine filariasis.

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Swine dysentery responds fairly well to arsenical preparations in the drinking water, but in severe attacks oats should be fed for four or five days prepared thus: soak 3 bushels of oats in a solution of 3 lb. of sodium chloride, plus 4 oz. of alkaline compound (or 2 lb. of sodium carbonate); have ample drinking water available. For pigs too sick to eat, 4 oz. of sodium chloride, plus 4 oz. of sodium carbonate per 100 lb. of body weight should be given in a drench. Streptomycin added to the drinking water is also effective. The condition will recur unless the pigs are moved to clean quarters and properly fed.—T. L. Steenerson, D.V.M., Indiana.

Severe Gastroenteritis in a Leopard

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On Aug. 22, 1953, I was called to examine 1 of a pair of leopards, at the city zoo, which had vomited and had a very loose and slightly bloody stool. This animal, a 1-year-old male, had not eaten the previous day and had passed a rather mucoid, bloody stool during the night. After the attendants arrived in the morning, the cat vomited a frothy substance and later vomited bile. Being a young and rather tractable animal, we had no difficulty taking its temperature which was over 105 F.

The first diagnosis considered was infectious enteritis (feline panleukopenia) but not having enough serum on hand an additional supply had to be ordered. The administration of 1 tablespoonful each of kapectate and neomycin, plus 2 teaspoonsful of syrup of aureomycin every three hours, was commenced. The temperature remained high the following morning so medication was continued. When the serum arrived that afternoon, 100 cc. was given to the affected animal and a prophylactic dose of 50 cc. to its cagemate. On the third morning, there appeared to be some improvement and an additional 50 cc. of serum was given. The boned meat from a fresh-killed rabbit was offered to the leopard which consumed it immediately.

The temperature returned to normal on the fourth day, but medication was continued, with the addition of vitamin B complex. After the fifth day, all treatment except the vitamins was discontinued. After ten days, complete recovery was evident and the cat was returned to its exhibition cage.

No laboratory studies were attempted, therefore, no confirmation of the clinical diagnosis could be made. A similar condition has not appeared in any of the other zoo cats, but we have inoculated the Bengal tiger, one of our most valuable animals, and plan to inoculate the remainder of the young cats.

Any information or comments relative to this condition would be appreciated by the author.

Dr. Michael is a small animal practitioner in Erie, Pa.

Failure of Bacteria-Free *Trichomonas* to Cause Atrophic Rhinitis in Young Pigs

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SINCE SWITZER⁶ reported in 1951 that *Trichomonas* was present in the nasal passages of 80 per cent of swine affected with atrophic rhinitis and in only 3 per cent of nonrhinitic pigs, the role of this protozoon in the disease has been of interest.

Shuman *et al.*⁴ found *Trichomonas* sp. in 41 per cent of the pigs with atrophic rhinitis and in 16 per cent of the nonaffected pigs which they examined. Switzer⁶ was unable to produce the disease in 4, 36-hour-old baby pigs with bacteria-free cultures of *Trichomonas* from the nasal passages of affected pigs; but Spindler, Shorb, and Hill⁵ in 1953 reported that nasal washings containing *Trichomonas* organisms from pigs with atrophic rhinitis caused the disease when introduced into the nasal passages of healthy young pigs. They found that, after storage in the refrigerator for a month, the protozoa had disappeared and the washings no longer caused the disease.

Other agents have also been implicated in atrophic rhinitis. In 1953, Switzer^{7,8} reported the isolation, from the nasal passages of affected swine, of a coccobacillary organism which was capable of passing a Selas 02 filter. It was cultivated in chicken embryos and caused peritonitis, pleuritis, and pericarditis when inoculated intraperitoneally into pigs, but caused no respiratory symptoms when sprayed with a nebulizer into the nostrils of young pigs. Gwatkin, Dzenis, and Byrne² reported the production of atrophic rhinitis in pigs with a culture of *Pasteurella multocida*, type B, isolated from a natural case of rhinitis. Gwatkin and Dzenis³ continued this work. They observed atrophic rhinitis in young pigs into whose nostrils *P. multocida* isolated from field cases of atrophic rhinitis or nasal material from these cases had been instilled. No uninoculated controls were included in their experiments.

The present investigation was carried out to determine the relation of *Trichomonas* to atrophic rhinitis.

SURVEY OF TRICHOMONAS IN SWINE

A limited survey for *Trichomonas* was made of swine presented for autopsy to the veterinary diagnostic service (School of Veterinary Medicine, University of Illi-

nois). The nasal passages of the animals were washed with physiological salt solution, the washings were centrifuged briefly, and the sediment was examined under the microscope. *Trichomonas* sp. was found in 10 of 11 pigs (91%) affected with atrophic rhinitis, in 1 pig with suppurative rhinitis, and in 9 of 23 pigs (39%) with no lesions in the nasal passages. In addition, amoebae were seen in the washings from 2 pigs and *Balantidium coli* in the washings from 1 pig. None of these 3 animals was affected with rhinitis.

CULTIVATION OF NASAL TRICHOMONAS

Bacteria-free cultures of nasal *Trichomonas* were established from 2 pigs with atrophic rhinitis presented to the veterinary diagnostic laboratory in April and September, 1953. After the cultures had been started, they were transferred to CPLM medium,³ and then freed of bacteria either by several alternate transfers in medium containing 750 units per milliliter of penicillin G or 7,500 units per milliliter of dihydrostreptomycin, or by one or two transfers in CPLM medium containing 6,000 units per milliliter of penicillin G and 36,000 units per milliliter of dihydrostreptomycin. Attempts to obtain bacteria-free cultures by treatment with penicillin alone were unsuccessful. Freedom from bacteria was determined by inoculation of blood agar, brain-heart infusion broth, and thio-glycolate broth. The cultures were maintained routinely in CPLM medium at pH 7, and transferred every second or third day.

EXPOSURE OF PIGS

Four exposure experiments were carried out, using young Hampshire pigs, 11 to 39 days old, from a rhinitis-free swine herd. The animals in each experiment were litter mates, except for 1 of the 3 pigs in experiment 1. The pigs were housed in wire cages, the exposed and control pigs being kept in separate cages. All had been taken away

From the College of Veterinary Medicine and Agricultural Experiment Station, University of Illinois, Urbana. This investigation was supported by a research grant (E 387) from the National Institutes of Health, Public Health Service.

TABLE 1—Intranasal Exposure of Pigs to Cultures of *Trichomonas* Species

Expt. (No.)	<i>Trichomonas</i> strain	Days since original isolation of strain	Pig (No.)	Age of pig at start (days)	Days between first expo- sure and autopsy	Exposing dose and method
1	AR-1	13	1	39	21	2 ml. by pipette.
			2	39	39	2 ml.* (control).
			3	20	21	1 ml. by pipette.
2	AR-1	46	4	12	13	4 ml., 5 ml., and 5 ml. by pipette at 2-day intervals.
			5	12	24	Same as No. 4.
			6	12	24	4 ml. and 5 ml.* 4 days apart (control).
3	AR-1	79	7	31	15	2 ml. by bulb atomizer.
			8	31	15	Same as No. 7.
			9	31	15	2 ml. by bulb atomizer 3 times at 2-day intervals.
			10	31	15	Same as No. 9.
			11	31	15	None (control).
			12	31	15	None (control).
4	AR-2	7	13	11	22	2 ml. by bulb atomizer 3 times at 2-day intervals.
			14	11	22	None (control).

*Sterile CPLM medium administered by pipette to controls.

from the sow when a few days of age. At first they were fed canned evaporated cow's milk diluted with one part of water to two parts of evaporated milk. Purina startena was added to their ration when they were 2 to 3 weeks of age. One reduced iron tablet was given each animal weekly.

The exposing inoculum was prepared by transferring the *Trichomonas* cultures twice at daily intervals, using large inoculums. After one day's growth, the second transfer contained about 7,000,000 active protozoa per milliliter. This was used to expose the pigs.

Four experiments were carried out. Their details are given in table 1. Strain AR-1 was used in three experiments and strain AR-2 in one. In the first two experiments, 2 pigs were exposed to *Trichomonas* and 1 was left as a control; in the third experiment, 4 pigs were exposed and 2 left as controls; and in the fourth experiment, 1 pig was exposed and 1 was left as a control. In experiments 1 and 2, the culture was introduced into the nostrils with a pipette, while in experiments 3 and 4, it was sprayed into them with a DeVilbiss bulb atomizer. Single exposing doses were

RESULTS

The pigs were killed thirteen to twenty-four days after exposure. Transverse sections, made through the face at the level of the second cheek teeth, were examined

for gross lesions and for *Trichomonas*. The ventral turbinates of 2 pigs were sectioned and examined for microscopic lesions. In no case, either exposed or control, was any abnormality observed. The scrolls of the turbinates were complete, and their bony structure was firm. There was no noticeable increase in the space between the turbinate bones and the walls or floor of the nasal passages. No trichomonads were found in washings from the nasal passages of any of the pigs, although the protozoa were generally present in the cecum.

SUMMARY

1) In a survey of swine presented to the University of Illinois veterinary diagnostic service, *Trichomonas* sp. was found in the nasal passages of 91 per cent of 11 pigs with atrophic rhinitis, in 1 pig with suppurative rhinitis and in 39 per cent of 23 pigs with no lesions in the nasal passages. An amoeba was found in the normal nasal passages of 2 pigs, and *Balantidium coli* in another.

2) Bacteria-free cultures of two strains of *Trichomonas* from the nasal passages of pigs with atrophic rhinitis were obtained by the use of penicillin G and dihydrostreptomycin.

3) Nine pigs were exposed intranasally to rich, one-day cultures of these cultures. At autopsy thirteen to twenty-four days

later, neither lesions nor *Trichomonas* were found in the nasal passages.

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Scrapie Controls Studied

The incidence of scrapie on this continent was reviewed at a conference called by the Agricultural Research Service, U.S.D.A., in Washington on May 11, and control measures were discussed.

Scrapie appeared first in Canada in 1938 but has not recurred there in recent years. The policy there was to destroy the infected flocks and to indemnify with replacement values. Because of the long incubation period of scrapie, all sales from infected flocks for three years prior to the diagnosis were traced and these flocks kept under close surveillance. Evidence of scrapie has appeared in only one such flock but about 100 others are still being inspected semi-annually.

It has now been confirmed that scrapie did appear in Michigan in 1947. It appeared in California and Ohio late in 1952, in Illinois early in 1953, and in New York and Connecticut in 1954. Contact animals were also recently traced to, and destroyed on, one Indiana farm which is under periodic inspection.

In California, scrapie was diagnosed on two farms and contacts traced to 51 others. All sheep in the two flocks were slaughtered and buried on the farms, which then did not restock. All sheep sold from these two flocks and their 21,000 offspring in the 51 contact flocks were also slaughtered, four farms still being under "hold" (quarantine) orders. This operation to date has cost the state and federal governments \$16,000, with \$23,600 appropriated to complete compensations. Market value was used as the indemnity rate.

The disease was similarly handled in Illinois where one flock was affected. In Ohio (see JOURNAL, Feb., 1954: 136) where five flocks were affected, two of the three purebred flocks were marketed, the remaining three flocks are continuing under federal quarantine as commercial flocks. The Ohio approach was to consult and cooperate with the sheep breeders.

In New York, 4 sheep had died with scrapie in one purebred flock, and a ram sold from this flock was traced to a second flock, both flocks now being under quarantine. In Connecticut, scrapie was found in purebred, imported animals and that flock also is under quarantine. No funds for indemnities are as yet available in these two states.

Sheep of all breeds are susceptible to scrapie (see JOURNAL, Jan., 1954: 46) but all of the recent cases have been in Suffolks.

The Washington conference recommended that: (1) suspicious cases be immediately reported; (2) the diagnosis be confirmed at a state or federal laboratory; (3) suspicious flocks be immediately placed under state quarantine with a federal quarantine imposed if the laboratory findings are positive; (4) the infected and exposed sheep be slaughtered and indemnities paid, animals showing symptoms to be slaughtered and buried or burned on the farm with exposed animal being moved under permit for immediate supervised slaughter; (5) inspections be made of all flocks from which, in the past three years, animals in the infected flocks had originated, and also all flocks to which animals from the infected flocks had been sold in the past three years, these inspections to be made at six-month intervals for three years; (6) to require that all imported sheep and goats originate in disease-free flocks and be held under surveillance on the receiving farms for three years.

Central Nervous Disturbance in Dogs Three Unusual Cases

W. P. BLAKE, D.V.M.

Columbia, Missouri

Various stages of motor nerve paralysis are commonly seen in a small animal clinic. The following are 3 recent, specific cases seen in the veterinary clinic at the University of Missouri, which appeared to be similar at first but terminated differently.

Case 1.—An 8-year-old female hound was presented with a history of having difficulty in eating and drinking. She exhibited excessive salivation, incoördination, and hyperesthesia but seemed to be aware of her surroundings. Examination, including roentgenograms, revealed only a slight elevation of temperature (103.2 F.), impaired vision, and a tendency to walk backward and to hold her head to one side. She was held under observation for rabies. She became progressively worse and on the third day became comatose. Late the fourth day, with death impending, euthanasia was performed. Microscopic examination of brain smears showed several cells with inclusion bodies which closely resembled Negri bodies but which took a slightly lighter stain. Brain material was sent to the laboratory of the State Division of Health which reported it to be negative for rabies.

Case 2.—An 8-month-old, male, Terrier-type pup was presented with a history of having difficulty in eating and drinking, with incoördination and hyperesthesia over a period of four or five days. The owner had also noticed the presence of tapeworms. The dog could not hold his head up normally, his mouth remained open, and he had difficulty in standing and a pronounced radial paralysis. His temperature was normal and he was aware of his surroundings. The only treatment was vitamin B complex and tapeworm therapy. No improvement was noticed the next day. An examination of the blood showed: r.b.c., 6,040,000; w.b.c., 10,050; 1 eosinophil, 5 juveniles, 46 stabs, 27 segments, 19 lymphocytes, and 2 monocytes. Undiluted spinal fluid, secured on the fourth day through the foramen magnum, showed 86 cells per cubic millimeter. Gradual improvement was noticed

starting on the fifth day and the dog was released on the twelfth day. A letter from the owner, about three weeks after dismissal, stated that the pup was almost normal, inability to keep the head in a normal position and a slight radial paralysis being the only symptoms remaining.

Case 3.—A 5-year-old male Setter was referred to the clinic, by another veterinarian, with a suspected esophageal constriction. The condition had been present for four days. Examination, including roentgenograms, revealed difficulty in eating and drinking, the mouth held open, nervousness, and a very slight enlargement of the mandibular lymph glands. No pain was in evidence when the dog did eat or drink. The animal gradually improved and was released on the seventh day as being almost fully recovered.

No treatment of significance was used on any of these cases. Each showed a different severity, with the end results apparently depending on the severity of the attack. It is regretted that a more thorough necropsy was not done on case 1, but because of the symptoms and the microscopic findings, the carcass was disposed of as soon as possible.

Many cases of this type come to the clinic, and some prove to be positive for rabies. We, therefore, thought it might be of some interest to report this series of 3 cases.

We would welcome any comment on conditions of this type.

Treatment of French Molt and Baldness in Parakeets

On Feb. 1, 1954, 2 parakeets were brought to my office for treatment. I diagnosed 1 bird as suffering from French molt and the other from baldness of undetermined origin. Both birds were given the same treatment: this consisted of exposing each bird to ultraviolet light for two minutes each day for thirty days; and 1 thyroid tablet (0.25 gr.) dissolved daily in the drinking water for thirty days. At the present time (March 16), both birds are almost covered with new feathers and are in excellent health.—*Martin A. Bree, V.M.D., Philadelphia, Pa.*

Parasite ova are most numerous in the first feces passed in the morning.—*H. D. Owen, D.V.M., Indiana.*

From the School of Veterinary Medicine, University of Missouri, Columbia.

ACTH Therapy for Postvaccinal (Rabies) Paralysis

L. E. BOWERS, D.V.M.

Elizabethton, Tennessee

A Scottish Terrier bitch apparently in good health, but in estrus, was admitted to our hospital for board on Jan. 9, 1954. She was given 5 cc. of a phenolized rabies vaccine at the owner's request. Our records revealed that she had received one previous vaccination about one year ago. She was discharged on Jan. 15, 1954, still normal and in estrus.

On January 21, twelve days after vaccination, the owner returned the bitch in a paralyzed condition, believing that her condition resulted from her having escaped confinement and having been bred on January 16. Clinical examination, including radiography, revealed nothing abnormal except a complete posterior paralysis. A tentative diagnosis of paralysis resulting from the administration of rabies vaccine was made.

By the following morning, the paralysis had progressed to the forelegs and cervical region. Respirations were shallow and rapid. The temperature was below normal and the pulse was weak and rapid. No reflexes could be elicited posterior to the cervical region.

Forty units of ACTH in a gelatin base was administered intramuscularly. The following morning, the pulse and respirations were slightly improved. This therapy was repeated daily for five days. On the morning of the third day, the bitch was able to lap water and raise her head slightly. On the fourth day, she ate well and exhibited reflexes in her forelegs. On the fifth day, she was able to sit with her forelegs extended and reflexes were beginning to appear in her hind legs. Since then, a gradual and uneventful recovery with full use of all extremities has occurred.

While this is but one case report, it indicates that ACTH may be a useful drug in the therapy of a postvaccinal paralysis following the use of a phenolized rabies vaccine.

Dr. Bowers is a general practitioner in Elizabethton, Tenn.

ACTH and Cortisone in Leukemia.—When cortisone or corticotropin was added to the antibiotic and blood transfusion therapy of five leukemic children, their general condition improved, their appetite and strength increased, but none survived more than six months.—*J.A.M.M.A.*, April 17, 1954.

ACTH and Cortisone on Wounds.—Ascorbic acid deficiency has long been known to impair wound healing. In various tests, ACTH appeared to have little effect whether ascorbic acid was adequate or deficient. However, in similar tests, cortisone sometimes inhibited wound healing.—*Nutr. Rev.*, April, 1954.

ACTH for Parturient Paresis

Four cows with parturient paresis, given 0.6 mg. of ACTH per kilogram of body weight, recovered, although injections with calcium, magnesium, phosphorus, and glucose had failed. The ACTH produced a considerable rise in sodium, a decrease in potassium, and little if any change in magnesium and phosphorous levels.—*Proc. Internat. Vet. Congress, Stockholm, Aug., 1953.*

Local Hydrocortisone in Arthritis

Although hydrocortisone is usually more active than cortisone for certain arthritis cases, both may be unsatisfactory when given systemically, yet they bring temporary improvement when injected intra-articularly. In man, a dosage of 25 mg. of hydrocortisone, repeated when symptoms returned (every one to four weeks), apparently brought permanent relief in 20 per cent of the cases. These drugs are absolutely contraindicated in the presence of infection.—*Brit. M. J.*, April 10, 1954.

Cortisone for Treating Burns

Cortisone and corticotropin were used in treating several severely burned children. They seemed to have definite value in the first or shocked stage but little value in the toxemia stage (after the first forty-eight hours); and they may actually be harmful in the third or hypoproteinemia stage, since they tend to mask infection. In spite of this possible hazard, the drugs may enhance the

survival rate, one child having survived a 90 per cent body surface burn.—*Cortisone Investigator*, April, 1954.

Cortisone for Ocular Lime Burns.—Four patients with lime burns on the eye, treated locally with cortisone, either as an ointment or in solution, responded favorably without scar tissue formation. A sulfonamide or antibiotic must be used simultaneously to prevent infection.—*Cortisone Investigator*, April, 1954.

Effect of ACTH on Chronic Colitis

Corticotropin therapy immediately improved the condition of 23 to 35 patients with ulcerative colitis. Results were best where the disease was not too far advanced. However, of the 23, 15 had relapses within two years, about the same number as would have had remissions without the benefit of corticotropin. Apparently, the manifestations of the disease were repressed without the disease processes being reversed. It had value as a supportive measure for patients who required surgery but who were too toxic, exhausted, and debilitated. In some colitis cases, ACTH therapy may be indicated as a sustaining measure much as it is in cases of rheumatoid arthritis.—*J.Am.M.A.*, April 17, 1954.

Cortone is usually not as suitable for veterinary purposes as ACTH, since the latter stimulates the total secretion of all the adrenal glands.—*L. E. Harris, Ph.D., Nebraska*.

Cortisone Interference with Calcium Therapy.—Clinical observations and a case report (in man) indicate that when given simultaneously, cortisone may nullify calcium therapy. In several cases cortisone therapy produced a rapid drop in serum calcium level, an elevation of serum phosphorus, and symptoms of tetany with mental confusion, followed by a return to normal when cortisone was discontinued.—*J.Am.M.A.*, Jan. 2, 1954.

Vibrios in Swine Gastroenteritis.—Pigs, in Holland, which died from hemorrhagic gastritis revealed vibrios morphologically similar to *Vibrio fetus* in the mucosa of their intestines.—*Vet. Bull.*, April, 1954.

Trypan Blue and Furaspor Concentrate in the Treatment of Demodectic Mange

HOWARD T. WEIR, D.V.M.

Birmingham, Alabama

The parasitic infestation of demodectic mange has resisted most methods of treatment. Recent work has been published¹ describing the demodectic mange mite in various lymphatic glands. With these findings in mind, we decided to treat the disease both internally and externally. During the war, we talked with several German veterinarians who had used trypan blue with some success and decided to carry out such studies here.

Within the past six months, we have been using the following procedure in treating demodectic mange: (1) internally, a 1 per cent sterile solution of trypan blue was injected intravenously at the rate of 1 cc. per kilogram of body weight daily for one week; (2) externally, furaspor concentrate* was applied daily for one week. The concentrated solution is diluted, one part of concentrate to six parts of water. This solution is rubbed in daily with a soft brush. After seven days of treatment, the animal is discharged with instruction to the owner to apply the furaspor solution daily. The animal should be returned once weekly for an injection of trypan blue. Weak and debilitated animals should be treated every other day. We have never given more than 20 cc. of the drug at one time to any large dog.

During the past six months, 35 dogs with the pustular and squamous type of demodectic mange have been treated. These dogs appear to have been freed of the demodectic mange mite.

Conclusion.—We believe that the use of trypan blue internally and furaspor concentrate externally is beneficial in the treatment of demodectic mange. These drugs are apparently nontoxic in the recommended dosage but the animal may stay blue for three months. The animals under treatment seemed to improve in general health and

¹Dr. Weir is a general practitioner in Birmingham, Ala.

*Furaspor concentrate (nitro-furfuryl methyl ether 2.4 per cent, and benzol benzoate 90 per cent w/v) was supplied through the courtesy of Eaton Laboratories, Norwich, N. Y.

spirits after the third or fourth injection. A solution of B-complex vitamins was given intravenously to start each injection, since the dogs were usually debilitated and also to be sure the needle was properly placed before injecting the trypan blue.

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Livestock Pedigrees Issued in 1953

In the United States in 1953, half of the 1,674,288 animals which were registered were beef cattle and one-fourth were dairy cattle. The balance included 230,000 swine, 140,000 sheep and goats, and 35,000 horses.

Of the beef cattle, Herefords led with 560,000 followed by Aberdeen Angus with 160,000; Polled Herefords, 78,000; Shorthorns, 47,000; Santa Gertrudis, 29,000; Brahman, 17,000; Polled Shorthorns, 12,000; and Brangus, 6,000. Six other breeds were listed.

Dairy cattle included Holstein-Friesians, 189,000; Guernseys, 89,000; Jerseys, 88,000; Ayrshires, 24,000; Milking Shorthorns, 23,000; and Brown Swiss, 21,000.

Swine included Duroc Jerseys, 74,000; Hampshires, 52,000; Spotted Poland Chinas, 26,000; Berkshires, 17,400; Chester Whites, 17,300; Poland Chinas, 17,000; Yorkshires, 11,000; and Tamworths, 4,000. The Inbred Association, including new breeds such as the Minnesota No. 1, No. 2, and "C", as well as the Montana and Beltsville breeds, registered 3,088. Four other breeds were represented.

Sheep included Hampshires with 32,000; Corriedales, 17,000; Shropshires, 13,000; Rambouillets, 10,300; National Suffolks, 10,200; Southdowns, 9,000; American Suffolks, 8,000; Columbias, 7,000; Dorsets, 5,000; Oxfords, 2,500; Karakuls, 500; six other breeds had registrations.

Goat registrations included Angoras, 5,000; American Milk Goats, 4,000; and American Goat Society, 2,800.

Draft horse registrations were reduced

to: Belgians, 220; Percherons, 108; and Shires, 1. Pleasure horses included the Quarter Horse with 12,000; Thoroughbreds, 8,000; trotting horses, 4,800; Shetlands, 2,800; saddle horses, 2,200; Tennessee Walking, 1,250; Arabian, 800; Palomino, 579; Morgan, 395; Appaloosa, 171. Five other breeds also had registrations.—*Breeders Gazette, March, 1954.*

Medication Accidents.—In several instances, the pharynges of sheep have been punctured and drugs deposited in the peripharyngeal tissues. In others, Corynebacterium infection followed nonperforating injury to the pharynx. In some cases, phenothiazine bollets had been given with forceps; in others, the nozzle of a syringe caused the injury.—*Irish Vet. J., Nov., 1953.*

Equine Encephalomyelitis in 1952.—The incidence of equine encephalomyelitis in 1952 was three times that of 1951, which was the lowest since annual surveys were begun. Cases totaled 2,226 with 898 deaths, the chief 1952 increase being in the Mountain States. It is estimated that almost 169,000 horses were vaccinated.—*Rep., Chief, Bureau of Animal Industry, 1953.*

Terramycin Toxicity Studies.—When 7 dogs were injected intravenously with terramycin® in excessive doses of 25 to 220 mg. per kilogram of body weight, 1 died in thirty minutes from respiratory failure. The other 6 which received the smaller doses daily developed azotemia and died in two to seven days. Their serum concentration reached 16 to 256 mg. per milliliter.—*Vet. Bull., March, 1954.*

Chelated Iron for Hemoglobinemia

Chelated iron in the form of ferric potassium ethylene-diamine tetraacetate was compared with other iron compounds for its affect on anemic rats. When given *per os*, its effectiveness in raising the hemoglobin level was about equivalent to that of ferrous sulfate. When injected intraperitoneally, its effectiveness was considerably less than that of saccharated iron oxide. In each case, a trace of copper sulfate was fed to insure utilization of the iron.—*Science, April 30, 1954.*

Tetanus Prophylaxis and Therapy

The national incidence of tetanus is reduced as horses become more rare. The over-all mortality in man is about 50 per cent. It develops when spores are implanted in dead tissue which provides the essential anaërobic conditions. The calcium and iron salts in dirt produce the necessary necrosis. However, in about 20 per cent of affected persons no wound of entry can be found. The incubation period is less than a week in about 33 per cent of the cases, seven to fourteen days in 50 per cent, and longer in 17 per cent. The shorter the incubation period, the higher the mortality. Prophylaxis includes wound debridement and drainage by the omission of sutures.

The keystone of protection is tetanus toxoid when properly used. Tetanus can develop in spite of the use of antitoxin but in such cases the incubation period is increased and the mortality reduced. A prophylactic dose of 15,000 units of antitoxin may not protect a person more than seven days and seldom protects more than fourteen days. A dose of 100,000 units may protect fifty to sixty days. When antitoxin is repeated, not only is there danger of anaphylaxis but each repeated dose is less effective. Serum sickness is more common than anaphylaxis, which occurs in less than 0.5 per cent of cases. In animals, atropine reduces the incidence of anaphylaxis but in persons ACTH is the agent of choice.

The effectiveness of toxoid was established when, during World War II, only 30 cases developed in Allied armed personnel who had received prescribed injections. In the U.S. Army, where a booster injection of toxoid was given at the time of each injury, only 4 cases occurred, whereas in the British army, where only antitoxin was given at the time of injury, 22 cases occurred. The alum-precipitated toxoid is preferred for basic immunization, but the fluid toxoid, because it is absorbed faster, is preferred for the booster injection at the time of injury. For a toxoid-vaccinated individual, perhaps the greatest protection at the time of injury would result from using both the toxoid and antitoxin. It has been established that the booster toxoid will recall protective levels of immunity established by vaccination four or five years previously, but there is evidence that this immunity can be recalled for eight years.

There is evidence that the intracutaneous

administration of toxoid can establish active immunity within seven to ten days in animals, but these injections are very painful and unless used in small divided doses may cause skin sloughs. The pain can be reduced by adding procaine to the solution.

Treatment of tetanus in man has been much more successful since 1933, when sedation was introduced to prevent spasms and convulsions. The death rate which, prior to that time, had been 82.5 per cent has since been reduced to 20.4 per cent. Avertin (80 mg./kg. of body weight), given *per rectum* and repeated as needed to prevent convulsions, has been used since 1933. Pentothal may also be used but overdosage must be avoided since it reduces blood pressure, may induce pulmonary edema, and abolishes the essential cough reflex. Tetanus antitoxin, 50,000 units intravenously and 50,000 units intramuscularly, are given immediately if a person is not sensitized. This should produce an effective blood titer for a long time. Infected wounds should be incised and debrided. Routine therapy also includes intravenous feeding, tracheotomy to prevent laryngeal spasms, and round-the-clock nursing.—*Am. J. Surg., March, 1954.*

Tetanus Toxin in the Nervous System.

When tetanus toxin was injected directly into the medulla oblongata of rabbits, it was approximately a thousand times as lethal as when injected intravenously.—*Vet. Bull., April, 1954.*

Human Tetanus in Australia

A study of 58 cases of human tetanus since 1946, treated by the same physician under uniform conditions, indicated that trismus, rigid abdominal muscles, dysphagia, and sweating are the most common features in the early stage. Fluids, adequate to prevent dehydration from sweating, were given orally or by intravenous drip.

When the patients were tested with 0.2 cc. of antitoxin intradermally, about one sixth revealed a sensitivity. The nonsensitive were immediately given a basic dose of 100,000 I.U. intramuscularly and 100,000 intravenously. Those showing sensitivity received the antitoxin intramuscularly in gradually increasing doses at twenty-minute intervals. Penicillin was used to inhibit further growth of the *Clostridium tetani* and other organisms. All cases were

given barbiturate sedatives and tracheotomy was performed in most. The mortality was 31 per cent. A second attack of tetanus occurred in one patient.—*J. Am. M. A., April 17, 1954.*

Preserving Tetanus Antitoxin and Toxoid

Tetanus antitoxin stored at 37 C. (99 F.) retains its potency for twelve weeks and 70 per cent of its potency for twelve months. Tetanus toxoid, either purified or crude, has a comparable stability. When carried in a changeable climate, a thermos container will protect these products against extreme heat and freezing. Freezing would disturb the alum-precipitated preparations.—*J. Am. M. A., Jan. 9, 1954.*

Tetanus Prevention in the Wounded

The British Army, in the early months of World War I, because of a lack of tetanus antitoxin, reported an incidence of 8 cases of tetanus in every 1,000 wounded, the incubation period averaging eleven days. Later, when antitoxin was used, the incidence dropped to 1 per 1,000, the average incubation period being thirty-five days.

In World War II, British servicemen were actively immunized with "formol toxoid," which had been developed in 1927. Two doses of 1 ml. each, at six-week intervals, were used until 1941 when three such doses were given. In 1942, the annual "booster" dose technique was adopted, with antitoxin (1 or more 3,000-unit doses) being given when men were wounded.

American servicemen, similarly immunized, were given only an emergency dose of the toxoid when wounded. The incidence of tetanus in the same European theater was 0.11 per 1,000 Britishers and 0.0062 per 1,000 Americans. Because of this better record, the British recommended adoption of the method of giving properly immunized men only toxoid at the time of wounding.—*Proc. Roy. Soc. Med., Oct., 1952.*

Nothing is gained by giving a tetanus patient antitoxin intrathecally and the lumbar puncture may excite spasms.—*Brit. M. J., Jan. 17, 1953.*

Pharyngeal Perforations in Pigs

In June, 1949, a farmer insisted that phenothiazole had poisoned many of his herd of about 200 weaned pigs. The drug reportedly had been given a week before with an ordinary 2-oz. dose syringe, using a thick metal nozzle. For at least another week, more pigs became gaunt, weak, and died until nearly one third of the herd was lost. The pigs appeared bright and active, with temperatures of 104 to 106 F., but carried their heads extended, with swelling in the throat region. Some showed dyspnea, others had abscesses in the shoulder region, occasionally with paralysis of the fore limbs.

Each of the 11 necropsied pigs revealed a punctured pharyngeal diverticulum with abscesses along the esophageal region where the phenothiazole had been injected, and extending medial to and beyond the scapula in a few. One abscess contained oats. Similar accidents frequently occurred when pigs were given capsules with a balling gun. When the capsules contained santonin, necropsy usually revealed ecchymoses scattered throughout the body but especially in subserosal tissues.—*W.A.A.*

Fodder Poisoning in Cattle

Two cows in England were suspected of being poisoned from beet fodder. One, unable to rise and depressed, with diarrhea and a temperature of 100.5 F., was treated subcutaneously with a calcium borogluconate solution. The second cow, standing, with a normal pulse and a temperature of 102 F., but with fetid diarrhea and anorexia, was treated only *per os*. Four hours later the first cow was up and much improved while the second cow could not rise. When treated with calcium borogluconate intravenously, she was up in fifteen minutes. Both were eating normally the next day and made uneventful recoveries.—*Vet. Rec., March 20, 1954.*

Mucosal disease in cattle usually affects those under 2 years of age and is characterized by stiffness, scouring, mild fever, inappetence, but especially by an odorless, necrotic exudate which drools from the mouth and plugs the nostrils.—*R. E. Linders, D.V.M., Illinois.*

Business Procedures in a Hospital

IRIS M. WHITE, B.S.

Indianapolis, Indiana

THE FOLLOWING business methods, which we use in our small animal hospital, are wholly home-made; we use no prepared accounting or card forms. We have made every effort to keep all records as simple as possible and to avoid any duplication of work or filing. Any procedure in the hospital, be it clerical or medical, should be thoroughly understood by a minimum of two people, so that there is no "indispensable" person in the organization. Consequently, in case of illness or vacations, all procedures can be carried out in full.

Before assuming this responsibility, I was assistant actuary to an insurance company with one year of accounting training in college. Now I devote all of my time to the office.

Our business is legally set up as a partnership with Dr. White as the professional partner and me the business partner. Our business arrangement allows me to sign all business and tax forms (except narcotic) and write all checks. Originally, this was done because of the income tax laws. The revision of those laws several years ago made it unnecessary; however, our accountant and attorney felt that there was no reason in Indiana to change to a corporation. Since we employ seven people, the change to a corporation would make Dr. White and me employees and involve us in unemployment compensation taxes.

All policies are originally laid down by Dr. White who should, in so far as possible, be relieved of all except medical duties—my job being to carry out the details; bookkeeping, check writing, etc. should not be permitted to interfere with medical matters.

BOOKKEEPING

Our bookkeeping* system is unorthodox. It was worked out with our accountant, against his advice; however, it has worked so well that he has since set up many small businesses the same way. It is designed so that it can be carried on by an untrained clerk. All the accountant does is prepare quarterly and annual tax returns and close the books at the end of the year. His fee for this is less than \$100 per year.

Although we have a cash register, we do not use it to corroborate our daily receipts. This is

probably wrong and should be changed. When we are out of the office, the cash register is locked, and the kennelman on duty is given change and a list of the animals he may release. This money is counted back to us on our return. Our daily gross income is posted by daily totals. We do not keep an individual daily cash receipt book. The federal officials did not approve of this but were unable to find a legal method of forcing the additional bookkeeping.

We use a simple form of double entry bookkeeping: assets, liabilities, income, and disbursements. Our check stubs serve as a journal, from which all items are posted directly to the ledger. If a check is to be divided between two accounts, such as our electric bill which is part personal and part hospital, that division is noted on the stub at the time the check is drawn. We make an effort to avoid cash payments; for the few that we make, we keep a memorandum in a 10-cent notebook. Those items are totaled every three months and entered in the books. This is more informal than a petty cash box. If we need anything, we buy it and make a note of it.

Once a month all ledger sheets are added, and a trial balance made on the adding machine. Assets plus disbursements should equal liabilities plus income. We enter this quarterly in a trial balance book. Net income for each month is, of course, the difference between assets and liabilities or between income and disbursements, these differences being equal. At the end of the year, the accountant makes the closing entries, which include depreciation items, closing out the income and disbursement accounts, and charging our investment account. Opening the books for the new year is simple—merely heading new sheets for income and disbursements. Asset and liability sheets continue from year to year.

We do nothing about cost accounting although we probably should. We did, for one year, try to keep income and disbursements separated by hospital and in- and out-patients. The loss we showed on operating a hospital, as such, was discouraging so we did not repeat the experiment. We do maintain a few statistical sheets which are not time-consuming. Gross and net income, monthly and year-to-date, are entered so that we can read a comparison with previous years across the sheet.

Bank deposits and checks are always balanced monthly with the bank statement. This is a simple procedure. The basic rule is to number all checks and stubs in advance, and to use no counter checks.

To balance the checking account, we simply file all returned checks in order by number, and

Mrs. White is the wife of Dr. Paul T. White, small animal practitioner at 4410 North Keystone Ave., Indianapolis, Ind.

*A standard bookkeeping system is explained in "Planning Your Animal Hospital," 1950. A.A.H.A., 5335 Touhy Ave., Skokie, Ill., price \$3.50.

check to see that all outstanding checks from the previous month have come through. Then we go through the checks and record the amounts on any missing numbers. The balance in the check book, plus the sum of all outstanding checks, must equal the amount in the bank. Banks can make mistakes; they can, for instance, deduct a check of another Paul White from our account and still balance their books at the end of the day.

It is good bookkeeping practice to deposit all gross income and then draw checks for personal use, which will be posted to "personal drawing account."

One of the routine duties in the business end of hospital management is the prompt payment of bills. Credit is made and broken in the handling of the check book. Good credit, which is so slowly and painfully acquired, can be lost rapidly when bills are permitted to become delinquent. Also, slow payment is expensive. The 2 per cent discount for prompt payment, that the major drug companies allow, means a \$100 discount on an annual drug bill of \$5,000.

While on the subject of credit, I believe that it is an excellent practice to make at least one personal loan a year at the bank whether or not you need the cash. This serves several purposes: (1) Your name and credit is kept fresh in the minds of the loan officers; (2) in case of personnel change at the bank, you identify yourself to the new loan officer when the prompt granting of the loan is not imperative; (3) the prompt repayment, or preferably prepayment, of the loan before it is due insures your credit rating. This prompt payment should extend to all accounts. Charge accounts should never run more than ten days from receipt of bill. We make an ironclad rule never to charge anything, personal or business, for which we could not have written a check when purchased. On the other hand, in the establishment of credit, it is better to charge items than to pay cash. Such items as mortgage loan payments and interest due on loans and mortgages should be paid preferably a few days before they are due. We routinely write checks on the fifth and twentieth of the month.

The payroll for our hospital is on a weekly basis. Since we employ fewer than eight people, we are not concerned with unemployment compensation taxes.

CLERICAL DUTIES

There are many blank forms that can be filled in by clerks to save the doctor's time for strictly medical matters. Rabies vaccination certificates, health certificates for shipping, euthanasia forms, and permanent distemper vaccination forms are completed as far as possible before the patient is taken to the doctor. We also make follow-up calls to remind people when postsurgical or postcasting cases are to be returned to the hospital, when second or third distemper inoculations are due, and we mail annual rabies vaccination reminder cards. We telephone the client promptly when surgery is

completed to inform the owner how his pet is doing. This fosters excellent client relationships. All unpleasant calls are made by the doctor.

Sending bills promptly helps with collections. While ours is basically a cash business, we do send about 50 statements per month, and these should be in the mail on the last day of the month. We itemize bills so that the client knows exactly what he is paying for. I would not be happy with a garage bill for \$49 for "service rendered"; nor would the mechanic should he receive such a bill for service for his dog. If bills are not promptly paid, we send a second statement. The third and fourth month, delinquents are called by the doctor. The fifth-month statements routinely go to a collector under the theory that a 50 per cent collection fee is cheaper than the concern of our personnel. The routine is apparently satisfactory, since an average of less than five accounts go to the collector each year. One thing that helps keep poor accounts down is the requirement of a deposit for hospitalization just as human hospitals do—especially if the prognosis is not good or if we do not know the client. We also have a routine which has proved satisfactory for personal friends. If you charge friends nothing, they are hesitant to ask for nonessential services. So we bill them in full and then allow a 25 per cent discount. It seems to work happily for all concerned.

For case history cards, we use a 4- by 6-inch card which we have printed (fig. 1). Cards are

OWNER		ADDRESS			
Jones, A.		842 No. Lake St.			
PHONE	LA 2-60	SEX	BOY	AGE	10
		COLO	YAN	HAIR	BLK
DATE	Feb 2 1954	REASON	102 F	DOSE	10.00
					3.00
					13.00
(Indicate date of dissection; then if paid draw line across and file)					

Fig. 1—Sample of case history card used in Dr. Paul T. White's hospital in Indianapolis, Ind.

made for each new client; for others, the card is taken from the file. While we encourage clients to see either doctor, each is asked if he has a preference; if he definitely does have, it is respected. The card is then given to the doctor before he sees the client. Thus, the doctor always "remembers" the client. Later, the doctor may dictate information on current symptoms and treatment that he wishes entered on the card.

We keep a small filing case on the desk to receive all current cards. Each card shows clearly, in the way the lines are drawn, whether it is an out case or a hospitalized case and whether it was paid or charged. Each day, from this file, we

make a list of all dogs, alphabetically, according to the owner's name, also the kennel room and the treatment each is to receive. This list is then further subdivided between surgery cases (fig. 2) and treatment cases and typed for the doctor's

SURGERY Oct. 21, 1953			
3 — J. Doe — Cocker	— (2 yr.)	hysterectomy	
3 — I. Brown — Kitten	— (6 mo.)	spay (HS chemol. serum)	
2 — R. Gray — Collie mix —		abscess jaw (see case sheet)	
3 — A. Jones — Boxer pup —		ear trim R.V. (rabies vac.)	

Fig. 2—Surgery list which is made each day from the case card file, the system used in Dr. Paul T. White's hospital, Indianapolis, Ind.

use. Separate lists are also made of animals for worm treatment and for grooming. All lists are returned to the desk so that we know when the animal is ready to go home. Pertinent data is posted on the card. Any patient which is in the hospital for more than one day, except for routine surgery, also has a separate case sheet on a clip board for the doctor's daily case record. This is particularly important when there is more than one doctor. It is also important for recording injections and other data for later posting on the case card and for determining the charge.

The filing of cards, bills, and correspondence should be kept current for ready reference. Radiographs are filed by date. A list of taxes and insurance is kept, showing when each is due. Our accountant prepares all the tax forms. Insurance carried for the hospital includes: malpractice, real and personal property, fire, burglary, car, workmen's compensation, and public liability. Health-and-accident and life insurance are personal items. Our theory on insurance coverage is (1) to comply with the law, as in the case of workmen's compensation, and (2) to insure against disaster.

THE RECEPTIONIST

The good receptionist, in addition to taking names of clients and pets and making cards, should remember the names of clients and be able to recognize most breeds of dogs. If an unusual breed is recognized, the owner is impressed. It gives him a feeling that your hospital has had wide experience. Emergency cases should be recognized and handled promptly, out-of-turn. Whelping, suspected poisoning, accident cases, and animals with fits should be removed from the waiting room and put on an emergency table to await the doctor. Rabies suspects should be quietly moved from the room without arousing the owner's suspicions, if possible. The receptionist is the first line of defense in such cases,

and alertness can avoid exposure of other clients and of kennel men.

The doctor should be relieved of as much telephoning as possible. Appointments can be made and presurgical and pretreatment routines explained to the owner by laymen. We never refuse to call the doctor to the phone but try to avoid it by explaining that he has a client, or is in the dark room, or in surgery. We offer to relay questions and answers to and from the clinician but, if the client insists, we take his name and number so the clinician can call him later.

We have tried to develop stereotyped replies for the hospital personnel to give to common questions. For instance, if we are asked for boarding prices, we do not say "We don't board dogs"; we say, "We are sorry, we do not have a boarding kennel, just a hospital." Then we tell them how to find the boarding kennels in the telephone book. This answer is well accepted and leaves the way open to changing our practice if we ever wish to do so.

Handling the telephone is a salesman's job. No matter how good the professional service, nor how well the doctor can sell himself and his services, it is first necessary to get the client to the hospital. If not successful, it may be wise to do some introspection; such as "Am I showing irritation with stupid questions or refusing to let the prospective client talk out his problem, or what?"

All drugs and supplies must be ordered promptly at the doctor's request. It is our boast that the drug salesman rarely gets an order except for new products, because ordering is done when the supply is low.

We subscribe to a secretarial telephone service, such as is available in most cities. They carry an extension of our telephone on their switchboard, and answer during non-office hours. We call them from time to time during the evenings, Sundays, and holidays to pick up messages and to call clients if advisable. On emergency calls, the service tries to contact us at once. In this way, our telephone is answered twenty-four hours a day, emergency cases are given proper service, and we are buffered from the unnecessary out-of-hours calls.

A DDT Toxicity Experiment

When alfalfa hay treated with DDT was fed to 44 pigs from weaning until they were marketed, their rate of gain was not affected nor were there pathological changes in the liver or kidneys. When raw fat, cured bacon, and shoulders containing 2.2, 2.3, and 5.3 p.p.m. of DDT, respectively, were fed to rats for fourteen weeks, their rate of gain was unaffected and their tissues remained normal.—*J. Am. M. A.*, April 3, 1954.

NUTRITION

Urea Poisoning in Ruminants

Vast amounts of urea are daily being fed to livestock to furnish nitrogen for the building of proteins by the microorganisms in the rumen of cattle and sheep. These proteins become a part of the bacteria and protozoa. Later, in the abomasum and intestine, these proteins are digested to amino acids by the proteolytic enzymes of the digestive juices. The amino acids are then absorbed and utilized by the animal body.

When cattle develop digestive disturbances of unknown cause with symptoms of stiffness, bloat, nervousness, and eventually death, the cause may be a rumen overloaded with too much concentrate, roughage ground too finely, or other factors affecting the growth of bacteria and protozoa in the rumen. Whenever the rumen is overloaded with concentrate, its movements and rumination may be decreased. This interferes with the elimination of gases produced in the rumen and the end result is bloat. Also, bacteria produce acid with the gas changing the pH of the rumen contents which further interferes with the growth of microorganisms. At the same time, powerful toxins may be produced by certain bacteria, as the *Clostridium* species, which may produce kidney and liver damage. An example of the latter is enterotoxemia of lambs.

If analyzed, the protein supplement that is being fed to animals with the above symptoms may be found to contain 3 to 5 per cent urea. These percentages are recommended by the producers of urea and feed manufacturers and if the feed is properly prepared this should not be injurious. However, since urea is being fed so extensively to ruminants, certain precautions should be considered to reduce the incidence of urea poisoning.

Adequate total digestible nutrient (T.D.N.) must be fed, as the producers of urea recommend. The rumen microorgan-

isms must have energy to utilize the nitrogen from the urea. Also, overloading the rumen with concentrates must be avoided. Cattle should never receive more concentrate than roughage; a safer roughage-concentrate ratio being 2:1, with the roughage not being finely ground. Furthermore, the urea must be adequately mixed in the protein supplement. Most feed manufacturers are equipped to carry out this procedure if the urea has not hardened or caked. Lumps as large as a hen's egg have been found. The urea should be passed through a sieve no larger than No. 16 and preferably No. 20 or 25. These numbers specify the number of openings per linear inch as designated by the National Bureau of Standards.

Urea poisoning can be reduced considerably and even eliminated if the urea is properly processed in the mixing of feeds.

Several questions still remain unanswered regarding the feeding of urea to ruminants. For example, the daily gain from urea feeding is not as great as with true protein when compared on an equivalent nitrogen basis. Thus, the efficiency in utilizing the nitrogen by the bacteria and protozoa is higher with protein than with urea. Urea may be protein-sparing but it is not as efficient in this respect as we may be led to believe. Since the feed industry has generally accepted urea as an ingredient in protein supplements, they should try to eliminate any complications that may arise from its use.

Preserving Carotene in Grass Silage

Experiments with different methods of preserving grass silage indicate that 8 lb. of sodium bisulfite per ton of fresh-cut forage may increase the carotene content about 50 per cent. However, since untreated silage or silage preserved with either molasses or brewers' grain usually contains more carotene than is required by animals, the advantage of the bisulfite is discounted. In some experiments, the bisulfite improved

This condensation of the article, "A Suggested Method to Prevent Urea Poisoning in Ruminants" by M. J. Swenson, D.V.M., of Kansas State College, Manhattan, which appeared in "Feedstuffs" (March 20, 1954:38-40), was submitted by the Nutrition Committee of the AVMA for publication in the JOURNAL.

the color, odor, and palatability of the silage. In others, it was doubted whether these advantages offset the increased cost.—*Hoard's Dairyman*, April 10, 1954.

Splenic Rupture in Hypomagnesemia

Sudden deaths are not uncommon in acute hypomagnesemia but when 3 of 9 cows suddenly died a few weeks after being moved to a pasture containing clover, necropsy revealed a ruptured spleen, intraperitoneal hemorrhage, and intrapleural and endocardial hemorrhages in each. There was no evidence of infection or poisoning but blood tests indicated that 2 of the remaining 6 cows were low in magnesium. The 3 cows that died were the only ones which had calved within the past two months.—*Vet. Rec.*, March 13, 1954.

Parenteral Copper Therapy

Copper deficiency in ruminants has usually been treated by one of five methods: (1) drenching at intervals; (2) addition of copper to the drinking water; (3) mineral licks supplemented with copper; (4) addition of copper to the feed; (5) top dressing the soil. Since each of these methods has its serious disadvantages, parenteral therapy has been investigated. Copper sulfate solution administered intravenously has demonstrated a longer period of therapeutic efficacy than has oral administration.

Thirteen copper compounds, adjusted so that a 5-ml. dose was adequate for subcutaneous or intramuscular administration, were studied. Ten, including copper sulfate, were discarded as causing excessive inflammation and necrosis at the site of injection. Of the remaining three, copper oxine was either extruded or walled-off as a cold abscess. Copper versenate produced a marked increase in the blood copper concentration which, at four days, was still twice the pretreatment level, but it killed 5 of the 6 sheep injected. Copper glycinate caused a smaller rise in blood-copper concentration which decreased to pretreatment levels in thirty-six hours; 3 of the 11 treated sheep died from acute hepatitis and enteritis.

Three steers receiving 200 mg. of copper as a 20-ml. aqueous copper solution showed no ill effects. However, when a similar dose was given to 6 milk cows, they developed a varying degree of lameness, inappetence,

and reduced milk production for forty-eight hours. None of these agents could be considered satisfactory.—*Austral. Vet. J.*, Oct., 1953.

How Antibiotics Promote Growth.—When seven antibiotics were used in two experiments on chicks in clean quarters, no growth stimulation resulted nor was the low fecal clostridia population reduced. This supports the belief that antibiotics stimulate growth by reducing the intestinal clostridia.—*J. Nutr.* No. 4, 1953.

Antibiotic Implants and Lamb Growth.—When implants containing from 44 to 132 mg. of bacitracin or 140 mg. of chlortetracycline or combinations of bacitracin and penicillin were placed in lambs 2 days of age, they produced no significant effect on growth; nor did implants at 44 days of age.—*J. Anim. Sci.*, Feb., 1954.

Vitamin Synthesis in Nonruminants.—Synthesis of vitamins is greater in ruminants, but it occurs also in the cecum of the horse and in the intestines of swine and poultry and in the crop of birds. Hens, through their eggs and excretions, may discard two and one-half times as much biotin as they ingest.—*Frontiers in Nutrition*, Oct., 1949.

Tetany in Calves on Milk Rations.—Adding 1 oz. of magnesium carbonate daily to the ration of calves fed whole milk enabled them to maintain their normal blood magnesium levels and prevented the tetany which developed in the controls.—*Frontiers in Nutrition*, Oct., 1949.

Molybdenum and Copper Metabolism.—The accumulation of copper in the liver of sheep may be affected by the ration. Molybdenum exerts some influence on copper metabolism in herbivorous animals. Some rations limited the liver's copper storage to 9 mg. while others permitted 113 mg., although the intake of copper and molybdenum remained constant.—*Austral. Vet. J.*, 28, 1952.

EDITORIAL

Tetanus Toxoid—Potent But Tardy

After the termination of World War II, a medical report credited four agencies with greatly reducing service-incurred wound fatalities as compared to previous wars. One of these was the prophylactic effect of tetanus toxoid. The other three were the therapeutic effects of sulfonamides, antibiotics, and blood plasma.

Tetanus toxoid had become a welcome aid to veterinarians prior to that time but, because of the sporadic nature of the disease, it was impossible to appraise its efficiency from field observations. Recently, several comprehensive reports evaluating the toxoid and other agents for the prevention and treatment of tetanus in man have appeared in medical literature. (See abstracts, pp. 68,69.)

A REVIEW OF TETANUS

It will be recalled that tetanus has been recognized as a disease entity for at least two hundred years and, at one time, was considered to be the result of severe injury to the peripheral nerves. However, tetanus could not thus be produced experimentally and all cases were not preceded by injuries. About seventy years ago, tetanus was proved to be associated with an infection and soon thereafter an immune serum, or tetanus antitoxin, was produced.

The post-Listerian improvement in surgical technique, especially its asepsis and antisepsis, is credited with contributing greatly to the prevention of tetanus. The discarding of certain gadgets, such as the wooden "clamps" formerly left on the "cords" of castrated colts, was an especially beneficial move, living spores having been found on clamps months after they had been boiled in water for a few minutes.

All domesticated mammals (possibly all mammals) are susceptible to tetanus but birds seem to be very resistant. The equine species, which seems to have the least resistance, is said to be, experimentally, 350,000 times as susceptible to tetanus toxin as chickens, 600 times as susceptible as dogs, and 12 times as susceptible as mice. Some consider sheep and goats as more suscepti-

ble than other ruminants and swine, the latter at one time being regarded as having a relatively low susceptibility. The carnivores, dogs and cats, are known to be quite resistant.

Tetanus is said to be more prevalent in tropical than in temperate regions, seldom occurring in colder zones. A seasonal influence, greatest in spring and fall, has been suggested but could not events, such as more births with navel infections, and castrations account for this incidence? Equine feces have been credited with being the greatest source of infection. It will be interesting to see if the incidence of tetanus parallels the reduction in horse feces. Recurrences of the disease in the same individual, both man and animals, have been reported so perhaps we should be warned against expecting 100 per cent immunity from toxoid vaccination.

Today, two factors have markedly changed the veterinarian's concern with regard to tetanus. The first is the marked reduction in draft horses with their large, puncture-prone feet and their frequently collar-eroded necks, both potent sources of tetanus infection. The second factor is the toxoid which, if regularly used where needed, should keep the equine population, at least that portion which have sufficient actual or sentimental value, more or less permanently immunized.

EXPERIENCES WITH TETANUS

I first used the toxoid in March, 1936, on all of the horses on a farm where, in the previous year, a large calf and several pigs, all recently castrated, and a weanling foal had died with the disease. The regular immunization of horses might then have become a routine procedure had not encephalomyelitis, in 1937 and 1938, outweighed concern about all other equine problems. However, those who continued to keep a few good horses were usually easily convinced that they should be immunized with toxoid.

Textbook references to tetanus in cattle usually state that it occurs chiefly as a

postparturient infection. I wonder if that is true. The only such case I can recall unhappily followed, in seventeen days, an otherwise successful cesarotomy on a 500-lb. dwarf heifer that had become a community favorite and whose "operation" had just been publicized in a local paper. On the other hand, tetanus is quite common in castrated calves, especially when weaned and confined in barnyards. This was one of several reasons for emphasizing the value of the emasculatome which, if each cord is properly "broken," is a nearly "fool-proof" procedure.

The emasculatome, however, seemed of less value in avoiding tetanus in lambs, probably because of their fragile skin. When 4 large lambs, confined in an abandoned horse barn, were "pinched," 3 died with tetanus about two weeks later. The susceptibility of the ovine species is also authenticated by reports of a high incidence of tetanus following the use of elastic bands for emasculation. Rubber bands used for docking lambs also have been incriminated, one recent report stating that 34 of 200 such lambs died from tetanus.

The susceptibility of swine to tetanus should no longer be questioned. Undoubtedly, it annually causes the deaths of thousands of pigs following castration alone. When one farmer castrated about 70 weaned pigs, confined in an old barnyard, 1 died with tetanus in seven days. On the thirteenth day when 4 more died, an attempt was made to save 5 others which were showing symptoms by excising the entire scrotal area, hoping to remove the infection. However, these and 1 more died, a loss of 14 per cent of those castrated.

Another farmer lost 10 (26%) of the 38 weaned pigs he had castrated. Two weeks after the operation, when 4 had died and 6 were affected, all were given antitoxin, the 28 unaffected getting 500 to 1,500 units each. No more cases developed but probably none would have at that late date. Keeping castrated pigs out of old lots should reduce the incidence of tetanus, but one client who was unable to do so stopped his annual losses by giving antitoxin to each pig when castrated. To make the tiny dose more readily measured, the antitoxin was diluted with water so each pig would receive about 5 cc. Because of the susceptibility of old boars, antitoxin was also regularly given on some farms when such were castrated.

Tetanus can also follow other wounds in hogs, 1 large boar being affected ten days after having a "ring" put in his snout.

THE INDICATIONS FOR TOXOID

Except for its use in the still receding equine species and perhaps in a few exceptionally valuable members of other species, tetanus toxoid may seldom be indicated in the veterinary field, but it is well to know that such an effective agent is available. Tetanus antitoxin would seem still to be the more practical product for veterinary use, both for a short period of prophylaxis, at the time of an injury, and as a possible therapeutic aid. However, when the dosage of antitoxin recommended for man (1,500 units prophylactically and 100,000 to 200,000 units therapeutically) is considered, it suggests that veterinarians may have been expecting too much of the relatively small dosage usually employed for animals.

Sedatives, to control spasms, have marked therapeutic value in human cases and penicillin also is extensively used although its value is less clear. However, veterinarians usually must consider the cost of treatment, and the continuous "nursing" required in the use of sedative therapy may seldom be practical. Nevertheless, the trail has been blazed. What a pity toxoids and sedatives, with the know-how to employ them, were not available in the days when the horse was still man's most essential animal friend.

Science and Feed Manufacturing

Nutrition has kept pace with the many other branches of science in this era of rapid, accelerating scientific development.

Just as the pioneering incentive in medical science was to bring relief to suffering mankind, with the lower animals benefiting secondarily until veterinary medicine developed independently, so also the pioneering in nutritional science was done to meet man's needs, with animal nutrition benefiting indirectly until recent years, when it too has become an independent science.

Meanwhile, in the field of commerce the feed manufacturing industry has expanded rapidly. Part of this industry stemmed from the not too savory "stock food" busi-

ness of former years, which once was a thorn in the side of veterinary practitioners as it was conducted largely on a remedy peddler basis. However, in the last quarter century, by self-discipline and by fostering nutritional science, the feed business has become a giant, ethical industry.

Much credit for this must go to the American Feed Manufacturers' Association, with headquarters in Chicago, organized nearly fifty years ago. Its alert 80-man nutritional council is doing much to benefit the livestock and pet industries by improving feeds, as well as by attempting to protect animals against the ever-possible injury from insufficiently tested, newly synthesized or otherwise developed nutritional substances. This responsibility has been complicated by the recent trend toward the mass incorporation into feeds of medicinal substances, such as for the control of coccidiosis in poultry.

There still are, and may continue to be, some minor areas where the feed industry and the veterinary profession will have overlapping interests which may create misunderstandings, but both have the same objective, both are well established; therefore, for the best interests of our animal industries and all concerned, an intelligent, sympathetic cooperation between these two groups is essential.

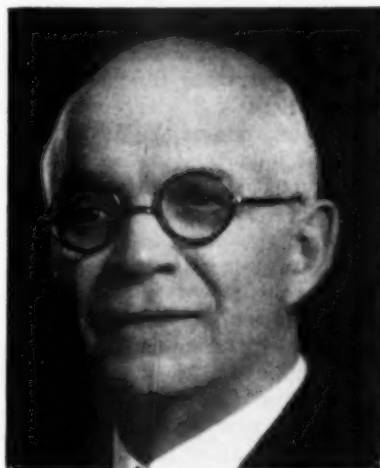
Dr. Charles E. Cotton—1871-1954

The veterinary profession lost one of its great former leaders in the passing of Dr. Charles E. Cotton of Minneapolis, Minn., on April 21, 1954, at the age of 82. An outstanding practitioner for many years, later one of the country's most forceful livestock sanitary officials for over twenty years, "Charlie" Cotton filled practically every important place and office in the councils of his profession at one time or another.

Born in Prescott, Wis., Sept. 18, 1871, educated in the public schools and trained in veterinary medicine at the University of Pennsylvania from which he received his V.M.D. degree in 1893, he entered the field of veterinary science just as the tuberculin test was being introduced into this country and became a recognized leader who helped to fight some of the early battles on bovine tuberculosis eradication.

Dr. Cotton joined the AVMA in 1898,

maintained active membership continuously until he was made an Honor Roll member in 1948 after fifty years of good standing, served on the Executive Board from 1920 to 1925, and on various committees. Among the honors he received from his colleagues



Dr. Charles E. Cotton

was election as president of the Minnesota State Veterinary Medical Society (1909-1910), of the AVMA (1916-1917) and of the U. S. Livestock Sanitary Association (1936-1937).

In World War I, Dr. Cotton was commissioned as a major in the newly-created Army Veterinary Corps in 1917, saw duty as a general veterinary inspector of the Corps, was discharged in 1919, and accepted a commission in the Veterinary Corps Reserves which he held for a number of years. He wrote a notable chapter, "Experiences of a General Veterinary Inspector" for Merrillat and Campbell's book on veterinary military history and for many years was a potent influence in the programs and policies of the livestock sanitary organizations of the country.

He retired in 1942, and in 1952 was awarded the Twelfth International Veterinary Congress Prize by the AVMA for "outstanding service to veterinary science and the veterinary profession."

He is survived by four daughters, Mrs. Jean Carroll and Grace Cotton of Minneapolis; Edith Cotton of Ruston, La.; and Mrs. Margaret C. Turner of Washington, D. C.; a son, John C. of Ashland, Ore.; and six grandchildren.

Dr. J. C. Flynn—1878-1954

Dr. J. C. Flynn, prominent small animal practitioner of Kansas City, Mo., for many years and president of the AVMA in 1935-1936, died at St. Mary's Hospital there on April 26, 1954, aged 75.

Born at York, Neb., in 1878, he was educated in the public schools and then entered Kansas City Veterinary College from which he received his D.V.S. degree in 1910. He then established one of the first exclusively small animal hospitals in the country, became recognized as an authority in small animal medicine and surgery, and continued in this type of practice until 1940 when he retired; he resumed active work again in 1941 for two years while his successor was in military service.

During his term as AVMA president, Dr. Flynn was energetic in building up the membership and was instrumental in adding about 500 new members to the rolls. Both before and after his term, he was in demand for veterinary association meetings and gave freely of his time for their programs. Later, feeling that the interests of veterinary practitioners were not receiving enough attention, he helped to organize the American Society of Veterinary Therapy which attracted a sizeable membership for a time and held annual meetings for a few years. He also served as an associate editor of the *North American Veterinarian* for a time, contributing articles on small animal topics.

Dr. Flynn spent his entire professional life in Kansas City. He was active in St. Elizabeth's Catholic Church and the Holy Name Society there. He is survived by his widow, Mrs. Gertrude (née Sullivan) Flynn, whom he married in 1904, two daughters, two sisters, one brother, and six grandchildren.

Bovine Pleuropneumonia in Africa

The Department of Veterinary Science of Tanganyika in Southeast Africa reported only three areas still quarantined for contagious bovine pleuropneumonia in 1952. A vigorous vaccination campaign continued. The vaccine, which is given subcutaneously in the tail, sometimes resulting in a local necrosis or even in death, seemed effective in two of the areas but losses continued in

the third. Therefore, a new avianized vaccine was prepared and used, which produced no reactions and no mortality "even in the most dilapidated bovine relics." Almost 185,000 cattle were vaccinated.—*Tanganyika Ann. Rep., Dept. Vet. Sci. and Anim. Husb., 1952.*

National Tuberculosis Association Meeting

The National Tuberculosis Association held its fiftieth anniversary meeting in Atlantic City, N. J., on May 17-21, 1954. About 3,000 physicians, nurses, and volunteer health workers attended. When organized in 1904, tuberculosis was in first place as a cause of death and was taking an annual toll of 188 persons per 100,000 population. Today it is in seventh place, with a death rate of 13 per 100,000. However, there are about 400,000 active cases in the country with about 100,000 persons being attacked each year.

Prolonged chemotherapy with streptomycin, para-aminosalicylic acid (PAS), and isoniazid, combined with surgical resection, has proved successful in 95 per cent of pulmonary tuberculosis cases in recent years. Oral treatment with only isoniazid and PAS for six months resulted in chest x-ray evidence of improvement in 39 per cent of 350 cases, with a change for the worse in only 6 per cent. With this therapy, bacteriological sputum tests changed from positive to negative in 52 per cent of 189 cases.

Tuberculosis in Older People

In Iowa, in 1920, of the 1,153 tuberculosis deaths in man 33.8 per cent were over 45 years old. Of the 597 deaths in the three years, 1949 to 1951 inclusive, 64 per cent were over 45 years old. Thus, mortality for persons less than 45 has been reduced to one sixth of what it was in 1920. In 1920, 10 per cent of those dying of tuberculosis were over 65, while in 1950, 33 per cent were over 65. There has been a sharp decrease in the number of positive reactors to the tuberculin test in younger people in recent years. However, because of their reluctance or inability to have adequate investigation, this older group constitutes a public health hazard.—*Lancet, April, 1954.*

CURRENT LITERATURE

ABSTRACTS

Assimilation of Calcium Rectally

The authors used radioactive calcium gluconate suppositories in dogs and then collected blood samples (2 cc.) periodically from the jugular and mesenteric veins. By measuring radioactivity, they were able to demonstrate a rapid absorption of calcium in venous blood. Within ten minutes, there was a detectable amount of calcium in the blood following the introduction of the suppositories.

In the second part of the study, it was demonstrated that it is the spongy part of the bones which fixes calcium, rather than the periosteum. This calcium-fixation is much more important in young and growing dogs than in the aged. The work proved that calcium can be administered rectally with adequate absorption and fixation.—[E. Canals et al.: *A propos de l'assimilation du calcium par voie rectale*. Bull. Acad. Nat. Méd. (July, 1952): 476.]—R.F.V.

Treatment of Trichuris Vulpis Infections

A summary of past efforts in the removal of *Trichuris vulpis* is presented as background for the use of a suspension of hexylresorcinol in removal attempts. A total of 24 dogs was treated, 20 receiving the suspension as an enema and the remaining 4 receiving the suspension injected through the wall of the cecum, after opening the abdominal cavity to get directly to the cecum. None of these methods was successful in removing more than 8 per cent of the parasites present, thus these methods are not considered to be satisfactory treatments.—[Donald E. Cooperrider and F. A. Hayes: *Treatment of Trichuris Vulpis Infections*. Am. J. Vet. Res., 15, (April, 1954): 272-273.]

Rapid Diagnosis of Newcastle Disease

Experiments indicated that lung tissue extracts of chickens affected with Newcastle disease (ND) usually possess significant hemagglutination activity, and the demonstration of this activity is a rapid procedure for the diagnosis of Newcastle disease. It appears that the most critical factor in the procedure is the freezing of the lung tissue in order that tissue fluid may be expressed while the lung is in the frozen state.

The absence of hemagglutination activity in the lungs of chickens would not eliminate a diagnosis of ND virus as the virus sometimes found in such individuals, particularly those having a mild form of the disease. Nevertheless, positive findings in flocks suffering from a respiratory infection is significant and warrants field trials. Newcastle disease antiserum should be used in the extract-hemagglutination test to determine the specificity

of the hemagglutination. Availability of fowl plague antisera would permit rapid diagnosis in instances of high flock mortality in which the hemagglutination was not inhibited by ND antisera.—[A. W. McClurkin, S. K. Sinha, and R. P. Hanson: *Rapid Diagnosis of Newcastle Disease Using Lung Extract*. Am. J. Vet. Res., 15, (April, 1954): 314-315.]

Vibrio Fetus Infection in Guinea Pigs and Hamsters

Nongravid guinea pigs which received *Vibrio fetus per vagina* became pregnant and some aborted. The infection was transmitted from such females to others by noninfected males following coitus. The males did not contract the infection. Apparently their role was purely mechanical. *Vibrio fetus* serum agglutinins were detectable (1:10 and 1:40) in all infected females. Titers were not noted in males.

When 10 male hamsters received intraperitoneal inoculation of *V. fetus*, the vibrios were cultured from the testes of 7 at seven, twelve, and twenty-one days. Transmission of infection to normal females in cohabitation with them was established. Agglutinin titers of infected females were 1:10 to 1:40. Titers of 1:640 to 1:1,280 were observed in the males.—[M. Ristic, E. V. Morse, L. Wipf, and S. H. McNutt: *Transmission of Experimental Vibrio Fetus Infection Among Guinea Pigs and Hamsters*. Am. J. Vet. Res., 15, (April, 1954): 309-313.]

Rumenitis-Liver Abscess Complex in Cattle

The stomachs and livers of 1,535 adult fattened cattle were examined. Of these, 37.6 per cent contained lesions of rumenitis and 5.5 per cent contained lesions of traumatic reticulitis.

Acute rumenitis was characterized grossly by hyperemia, hemorrhage, necrosis, edema, and gas. Microscopically, the epithelium contained necrosis, vesicles, and colonies of bacteria, including *Sphero-phorus necrophorus*, which were penetrating injured tissue. The subepithelial tissue showed a strong inflammatory reaction, necrosis, colonies of bacteria, including *S. necrophorus*, gas, and edema.

Chronic rumenitis was characterized grossly by depigmentation, devillation, scars, ulcers, pits, and nodules. Microscopically, the epithelium was vesicated and ulcerated; rete pegs were lengthened and formed epithelial nodules. The submucosa showed proliferation of fibrocytes and capillaries, and infiltration with eosinophils, lymphocytes, plasma cells, mononuclear macrophages, and multinucleated giant cells.

Of the 1,535 cattle examined, 577 showed rumenitis. Of the latter, 91.2 per cent contained lesions in the anterior ventral sac of the rumen.

The rumen also showed a high incidence of hyperkeratosis.

The association of gastric lesions and liver abscesses showed statistical significance.

Stomachs and livers of 630 unfattened calves were examined. The incidence of ruminal lesions and liver abscesses was low.

Feeding barley in reasonably large amounts to animals, which were not accustomed to grain as a part of their ration, caused the formation of a high concentration of acid within the rumen. At autopsy, acute rumenitis was generalized. Grossly and microscopically, the changes were identical to those observed in spontaneous rumenitis.

Feeding acetic acid alone and sodium acetate alone failed to produce rumenitis.—[Rue Jensen, Harold M. Deane, L. John Cooper, Victor A. Miller, and W. R. Graham: *The Rumenitis-Liver Abscess Complex in Beef Cattle*. *Am. J. Vet. Res.*, 15, (April, 1954): 202-216.]

Bactericidal Activity of the Uterus in the Rabbit and the Cow

Comparisons were made of the numbers of bacteria recoverable from the uteri of estrous, spayed, and pseudopregnant rabbits inoculated twenty-four hours previously with known concentrations of *Escherichia coli*. Estrous and spayed females exhibited a high degree of bactericidal activity; ligation of the cervix in these animals tended to increase the number of surviving bacteria by preventing natural drainage.

Bactericidal or bacteriostatic activity was practically nonexistent in pseudopregnant females. The same technique was employed in comparing the uterine bactericidal activity of luteal-phase cows of normal and impaired fertility. "Repeat-breeding" cows generally exhibited a greater defense toward bacterial infection than did "first-service" animals, suggesting a possible cause of their lowered fertility.—[W. G. Black, J. Simon, H. E. Kidder, J. N. Willbank: *Bactericidal Activity of the Uterus in the Rabbit and the Cow*. *Am. J. Vet. Res.*, 15, (April, 1954): 247-251.]

Propagation of a Chronic Respiratory Disease Agent and Newcastle Disease Virus

It is shown that two cultures of Newcastle disease virus of different virulence, each deliberately contaminated with a strain of the agent of chronic respiratory disease of chickens remained contaminated through five serial passages in 7-day-old and 10-day-old chicken embryos. Evidence of contamination with the agent of chronic respiratory disease was not manifested. This finding bears significance to the production of embryo-propagated live virus vaccines. A technique, consisting of the neutralization of the Newcastle disease virus with antiserum and then inoculating the neutralized

material into the yolk sac of 7-day-old chicken embryos, is described for the demonstration of the agent of chronic respiratory disease in such a mixed culture.—[Clarence H. Thompson, Jr.: *Propagation of a Mixed Culture of a Chronic Respiratory Disease Agent and Newcastle Disease Virus in Chicken Embryos*. *Am. J. Vet. Res.*, 15, (April, 1954): 293-297.]

Residual Hormone in Meat

A method is described for assaying meat obtained from cattle treated with diethylstilbestrol and dienestrol, alone and in combination with progesterone. The technique involves the feeding of beef from estrogen-treated steers to ovariectomized mice. Quantitative estimations regarding residual hormone activity of the meat were made by comparing the uterine weights of the mice fed the meat to those obtained from mice fed known amounts of diethylstilbestrol. Advantages of this particular method are the ease with which it may be carried out, its sensitivity, and the fact that it simulates the route by which man would be exposed to meat from hormone-treated animals.—[Martin Stob, F. N. Andrews, and M. X. Zarrow: *The Detection of Residual Hormone in the Meat of Animals Treated with Synthetic Estrogens*. *Am. J. Vet. Res.*, 15, (April, 1954): 319-322.]

FOREIGN ABSTRACTS

Human Meningitis of Veterinary Origin

An outbreak of a new form of human meningitis among workers in the Central Laboratory for Veterinary Research of the Ministry of Agriculture (France) is reported. The authors named the disease "epizootic pseudoapthous stomatitis of the Bovidae." The causative virus was isolated from various laboratory animals employed in the course of studies on the disease in ruminants. The serum of one of the patients proved infective in concentrations of as little as 1:100 when inoculated into susceptible animals.—[P. Mollaret, L. Salomon, and Mme. L. Salomon: *Discovery of a New Meningitis Caused by a Virus of Veterinary Origin*. *Presse Méd.* (Dec. 9, 1953): 1615-1619.]—R.F.V.

Chlortetracycline in Aujeszky's Disease (Pseudorabies)

Pseudorabies was confirmed for the first time in Greece in January, 1949, in a heifer in the city of Patras. In August, 1951, there was an outbreak in a flock of sheep. The pens where the sheep were kept formerly housed hogs and were infested with rats. The virus causing this disease is large, measuring 100 to 150 μ .

Since some of the antibiotics have shown virucidal action against some of the large viruses, the effect of chlortetracycline (aureomycin) on the virus of pseudorabies was studied.

The authors present the following conclusions: (1) Chlortetracycline possesses a virucidal power

(*in vitro*) against the virus of pseudorabies; (2) it possesses a virucidal action (*in vivo*) only when the antibiotic is injected simultaneously, but separately in animals inoculated with the causative virus; (3) when the antibiotic is injected after the appearance of the first manifestations of the disease, it does not protect the animal but may result in a prolongation of the disease.—[*Tb. Christodoulou and C. Tarlatzis: The Action of Aureomycin on the Virus of Pseudorabies. Bull. Acad. Vet. (Oct., 1953): 417-420.*]—R.F.V.

A New Vaccine for Swine Erysipelas

In veterinary medicine, as in human medicine, vaccination by living or attenuated bacteria is often impossible or dangerous. The use of killed bacteria, while it is safe, often produces low grade and irregular immunity.

Since 1935, experiments on immunization indicate that surface antigens that are present in killed or attenuated vaccines do not produce active immunity. Antigens found in the bacterial cell, however, are highly active and produce a high grade of immunity.

Some organisms (staphylococci, pneumococci) may autolyze spontaneously; other organisms resist autolysis. A method of bacterial lysis without recourse to severe physical and chemical methods has been developed. This method eliminates the toxicity frequently produced by the lysis of bacteria, e.g., *Pasteurella* treated with penicillin. Lysis by the use of pepsin produces a highly antigenic non-toxic vaccine. Addition of adjuvants (aluminum hydroxide, etc.) may enhance the antigenicity of this lysed vaccine. Satisfactory vaccines for swine erysipelas have been used successfully in the field in Europe.—[*L. P. Delpy: Revue Trimestrielle, D'Information Veterinaire, No. 14, (1953): 10-13. (From a communication by Dr. Delpy to the Academie Veterinaire de France, Dec. 3, 1953).*]—R.F.V.

Aureomycin in Calf Diseases

This report covers the clinical use of chlortetracycline (aureomycin) in over 200 calves. The antibiotic was compared with penicillin, streptomycin, and sulfamerazine in a variety of calf diseases including infectious scours, septicemia, pneumonia, omphalophlebitis, peritonitis, and anthrax. Chlortetracycline proved to be the most effective of the four drugs. The author recommends 250 to 500 mg. orally three times daily for three to five days. The more seriously affected animals received 500 mg. intravenously twice daily.

It is concluded that, while in human medicine it has been reported that the simultaneous use of chlortetracycline and penicillin is sometimes incompatible, the experience of the author has been to the contrary.—[*C. Gaulier: Observations Cliniques sur l'emploi de l'Aureomycine en Médecine Vétérinaire. Rec. Méd. Vét. (March, 1953): 167-179.*]—R.F.V.

Foot-and-Mouth Disease— Lessons of an Epizootic

An epizootic of foot-and-mouth disease of exceptional gravity, characterized by variability of the virus and rapid spread, has raged over Europe since 1951 and still exists in several countries. It exists on other continents and has succeeded in penetrating Canada, thus being a menace to the United States. The disease had existed in sporadic or enzootic proportions in different parts of Europe but, in the summer of 1951, there was a rapidly spreading outbreak that started in Germany and by October, 1952, had involved many countries. The author describes in detail the spread of the infection in various countries during 1951 and 1952.

The epizootic was notable not only because of its rapid spread, but also for the occurrence of variants of the virus which made it difficult to control the disease by vaccination. The author discusses the origin of the variants and concludes that there is a perpetual evolution giving rise to variation. The appearance of variants may be compared to the occurrence of drug-resistant variants of bacteria. This is of great importance and must be kept in mind by epidemiologists and immunologists in attempting to control not only foot-and-mouth disease but other virus infections as well. Vaccines must be polyvalent. In addition to vaccination, rigorous sanitary measures must be employed. Restrictions must be placed on the transportation of animals and meat products. All cases of foot-and-mouth diseases should be reported. All exposed animals, including sheep and swine, must be slaughtered. All premises must be disinfected. These measures aided in the control of the disease in some countries.—[*G. Ramon: Foot-and-Mouth Disease. Considerations on Its Epidemiology, Virology, and Immunology. Lessons of a Great Epizootic. Rev. Immunol. et Thérap. Antimicrobienne, 17, (1953): 50-79.*]—A.G.K.

Vitamin K in the Treatment of Essential Hematuria

When given in time, vitamin K is practically a 100 per cent cure for essential hematuria in cattle. About 50 per cent of the cases start anew after four months, but they soon recover when given vitamin K. By testing a large number of animals, both sick and healthy, it was found that those which remained two years or more in an area where this condition is prevalent, whether they were born in the area or were imported from Kenya, had too slow a coagulation of the blood due to a deficiency of vitamin K. This deficiency occurs gradually, probably because of a low vitamin K-production by the intestinal flora which is altered through a too acidic base (pH 4-6).

A secondary cause of this disease is a lowered vascular resistance in the blood network of the bladder, which may be due to a large quantity of oxalates or other mineral salts eliminated by the

bladder; extreme temperature changes; chronic hemoglobinuria of piroplasmosis; vitamin C deficiency; hormone change during pregnancy; or bladder infection. Regardless of the cause, the mechanism of the disease remains the same; once the hemorrhage starts it continues indefinitely. Vitamin K is definitely the etiological treatment of essential hematuria, and serves a preventative as well as a curative purpose — preventative in that it acts to alter the intestinal flora by base improvement.—[F. Debecker: *On Vitamin K in the Aetiologic Treatment Against Haematuria Essentiales*. *Vlaams Diergeneesk. Tijdschr.*, 22, (Nov., 1953): 269-275.]—L.V.E.

Longevity of Bull Sperm in Vitro

Diluents for bull sperm which contain egg yolk can be kept at 20 C. At this temperature, decomposition is avoided. It also makes it possible to prepare a stock of well-controlled diluent. Apart from its protective actions while cooling, egg yolk also has harmful qualities such as spermicide action, participation in dilution shock, and agglutination. It is, therefore, advisable to dilute the semen at first moderately with egg yolk buffer. After cooling to refrigerator temperature (+4 C.) a second dilution with a buffer which contains no egg yolk at all proved to be beneficial to the sperm cells.—[J. C. N. Kok: *On the Longevity of Bull Sperm In Vitro*. *Tijdschr. voor Diergeneesk.*, 78, (Dec. 1, 1953): 993-997.]—L.V.E.

Cortisone for Bovine Acetonemia

The author treated 5 cows with acetonemia, postpartum, with small doses of cortisone, 3 doses of 50 mg. intramuscularly at twelve-hour intervals. The results were not favorable. In 4 of the 5 animals, a slight temporary improvement was obtained but all 4 animals showed relapses while the fifth cow did not react at all. In view of the good results obtained by others with higher doses of cortisone, it may be concluded that the dose administered was too small.—[D. Talsma: *Some Trials With Cortisone in Acetonemia*. *Tijdschr. voor Diergeneesk.*, 78, (Dec. 15, 1953): 1011-1013.]—L.V.E.

BOOKS AND REPORTS

Proceedings of Society for the Study of Fertility

Sixteen papers are included in this book, five dealing largely with the human female, four on men, six on the rat, and one by a veterinarian, M. Brochart, on the staining properties of spermatozoa.

The subjects covered include tubal patency tests, hysterosalpingography, the effects of interruption of circulation to the epididymides and testes, contraceptives, mumps in the male, vascularization of the ovary in the rat, fertility in the rodent, testosterone transplants in man, tubal spasm, signif-

icance of pus cells in human semen, effects of the interruption of the arterial supply to the seminal vesicle of the rat, the effect of steroids on the level of gonadotrophin in human urine, the effect of ligation of the vasa efferentia on the testes of the rat, and the influence of unilateral orchidectomy on the effect of ischemia on the contralateral testis. The approach to the subjects is largely from a fundamental point of view, but they all have the pleasing faculty of keeping in view a well-defined objective.

For example, Dr. Jeffcoate states: "The numerous and fascinating developments in the field of reproductive physiology during the past two decades have proved singularly unbeneficial in the treatment of infertility. Clinical advances during the last thirty years have all been in the fields of diagnosis and prognosis." Dr. Swyer: "The causes of defective spermatogenesis in men are largely unknown and the methods of treatment are, therefore, mainly empirical. Provided adequate data are collected, any method offering a chance of success seems justifiable." Dr. M. Brochart (Ecole Nationale Vétérinaire d'Alfort): "It will be shown later that there is no direct relationship between motility, which is one criterion of viability of sperm, and the permeability of the head to eosin."

These papers are of great interest to everyone dealing with problems relating to infertility. The fact that they are of the exacting nature of research does not in the least detract from their interest to the clinician.—[*Proceedings of the Society for the Study of Fertility*. 104 pages. Illustrated. W. Heffer & Sons, Ltd., Cambridge, England. Price about \$1.50.]—H. E. KINGMAN, SR.

Annual Review of Biochemistry

This year's review includes a prefatory chapter by E. V. McCollum, nutritionist, in which he describes his own experiences as a student, teacher, and investigator. Sections follow on biological oxidations, proteolytic enzymes, nonoxidative and nonproteolytic enzymes, carbohydrates, lipids, nucleic acids and purines and pyrimidines, carbohydrate metabolism, lipid metabolism, protein and amino acid metabolism, cortisone, nutrition, neoplastic tissue, teeth, immunopolysaccharides, fungi, ruminant nutrition, photosynthesis, antibiotics, vision, fat-soluble vitamins, water-soluble vitamins, and amino acids, peptides, and proteins.

As is the custom, the literature reviewed is that pertaining to research in each of the above fields reported on since the last similar review and up to the latter part of 1952.

The sections on nutrition and on vitamins are of particular interest to veterinarians, especially the parts referring to farm animals. Current work on tympany is reviewed under the head of ruminant nutrition. The use of antibiotics in animal feed supplements is concisely reviewed, as is current work bearing on mode of action and syner-

gism in antibiotic therapy, and bacterial sensitivity and resistance to antibiotics. Influences of hormones on carbohydrate metabolism in laboratory animals are reviewed.—[*Annual Review of Biochemistry*. Edited by J. Murray Luck. 729 pages. Annual Reviews, Inc., Stanford, Calif. 1953. Price \$6.00.]—A. F. SELLERS.

Methods in Medical Research

The sixth volume of a series of small texts on medical research subjects, the first of which was published in 1948, is just off the press. It continues the discussion of a series of scientific problems, three or four of which are included in each volume. Volume 6 has four sections treating the subjects of: (1) Some Methods of Studying Human Genetics; (2) Methods in Environmental Medical Research; (3) Statistics in Medical Research; and (4) Design and Construction of Metabolism Cages.

Twenty-four authors are credited with contributions to this volume.—[*Methods in Medical Research*. Vol. VI. J. Murray Steele, Editor-in-Chief, I. H. Page, Rene J. DuBos, C. N. H. Long, Carl F. Schmidt, Eugene A. Stead, David L. Thompson. Illustrated. Cloth. 257 pages. Yearbook Publishers, Inc., 200 East Illinois St., Chicago. 1954. Price \$7.00.]—W. A. AITKEN.

British Veterinary Codex

The main purpose of this book is the definition of standards for, and factual information about, actions and uses of drugs and biological products. Drugs commonly used by veterinarians but not included in other official compendiums are included in the "Veterinary Codex." Standards are established for these drugs.

The book is divided into three parts, plus 16 appendixes and a pharmacological and therapeutic index. Part I pertains to monographs on drugs. Each monograph contains the following information about a drug: source or method of manufacture; standard, unless this has been established; action and uses; and dose. Toxicity, incompatibility, stability, and methods of sterilization are included for some drugs. Part II is devoted to antisera, vaccines, and related biological products. The following topics are included in each monograph: method of preparation; standard including potency test; storage; action and uses; and dose and route of administration. Part III is devoted mainly to dosage forms and prescriptions.

The appendixes include: reagents and methods employed in drug assay and tests; tests for sterility, purity, and potency of biological products. The book is well written and is a valuable addition to veterinary medical literature. Each monograph is concise and covers the available information. Hormones which appear useful in veterinary medical practice are included. An unusual feature of this book is the combined coverage of thera-

peutic agents and biological products in one volume.

It is a fine reference and is valuable because it establishes standard for drugs which have not had definite standards for purity and potency.

The terminology varies some from that used in the United States. However, this variation should not be of significance to those desiring this type of text.—[*British Veterinary Codex*. Authors selected by the Pharmaceutical Society of Great Britain. 737 pages. Pharmaceutical Press, London. 1953. Price 45 s.]—ROGER LINK.

Advances in the Control of Zoonoses

The control of zoonoses, diseases which are naturally transmitted between vertebrate animals and man, is one of the major fields in veterinary public health. This monograph consists chiefly of the material presented in the manuscripts and the discussions of five zoonoses at the FAO and WHO seminar in Vienna, in November, 1952.

Part I consists of five papers on the various aspects of bovine tuberculosis. Part II contains three papers and the discussion on human and animal brucellosis. The epidemiology of leptospirosis in Italian rice fields and a comprehensive account of leptospirosis research in Holland are given in part III. Part IV is concerned with Q fever and includes a survey of its prevalence in 28 countries. Part V, dealing with rabies, considers the latest developments regarding natural and experimentally induced infection, vaccination, therapy with hyperimmune equine serum, field control including control in foxes, and diagnostic methods.

The value of collaboration between physicians, veterinarians, and public health officials is emphasized. This is an interesting and informative monograph.—[*Advances in the Control of Zoonoses*. Published by WHO/FAO Seminar on Zoonoses, Vienna, November, 1952. Illustrated. 270 pages. World Health Organization, Palais des Nations, Geneva, Switzerland. 1953. No price given.]

Identification of Common Species of Mosses

This apparently is a comprehensive, authoritative written book. The treatment of the subject of mosses is extensive and well illustrated, but there is little connection between the subject and veterinary medicine, except in the rare case where mosses form a small part of the available pasture vegetation. Since mosses have never been incriminated in any manifestation of toxicity for livestock, this text has little value for veterinarians. However, it is an interesting treatise of natural phenomena and worth-while reading for everyone interested in such.—[*Mosses, A New Approach to the Identification of Common Species*. By E. T. Bodenberger, Ph.D. Paper cover. 264 pages. 49 plates. Burgess Publishing Co., Minneapolis 15, Minn. 1953. Price \$5.00.]—I. B. BOUGHTON.

THE NEWS

Dr. Thorp Appointed Head of Minnesota Veterinary School

Dr. William T. S. Thorp will become an assistant dean and the director of the School of Veterinary Medicine at the University of Minnesota on July 1, 1954.



Dr. W. T. S. Thorp

Dr. Thorp was born in Canada, raised in Michigan, and received his D.V.M. degree in 1935 and his master's degree in animal pathology in 1937, both at Michigan State College. He is a member of Alpha Psi, the honorary veterinary fraternity.

In 1937, he was appointed instructor of animal pathology at the college and in July, 1938, joined the staff of Pennsylvania State College. There, in addition to carrying on his own research in animal diseases, he developed the animal disease research program at the college experiment station.

When he resigned in 1947 to accept a position with the National Institutes of Health at Bethesda, Md., Dr. Thorp was professor of animal disease research with full-time research responsibilities.

A member of several professional and scientific associations, Dr. Thorp has served on committees of the AVMA and the National Research Council. He is a member of the Conference of Research Workers in Animal Diseases.

Dr. H. C. H. Kernkamp who has acted as director of the veterinary school for the past year will continue his distinguished career as professor of veterinary medicine.

Executive Board Nominations in Districts IV and X

As a result of primary balloting conducted in Executive Board District IV (Ala., Cuba, Fla., Ga., Ky., Miss., N. Car., S. Car., Puerto Rico, South

America, Tenn., Va., West Indies, W. Va.), the following candidates have been nominated:

Dr. McKenzie Heath, Auburn, Ala.
Dr. Taylor P. Rowe, Richmond, Va.
Dr. R. S. Sugg, Auburn, Ala.
Dr. E. F. Thomas, Sarasota, Fla.
Dr. C. C. Von Gremp, Decatur, Ga.

In District X (Mich. and Ohio), the nominees are:

Dr. C. F. Clark, East Lansing, Mich.
Dr. John H. Helvig, Columbus, Ohio.
Dr. Fred J. Kingma, Columbus, Ohio.
Dr. Walter R. Krill, Columbus, Ohio.
Dr. Geo. R. Moore, East Lansing, Mich.
Dr. E. K. Sales, East Lansing, Mich.
Dr. S. L. Saylor, Canal Winchester, Ohio.

In this district, 7 nominees were listed on the ballot instead of the usual 5 because of a three-way tie for fifth place.

Ballots listing the nominees in the two districts were mailed to all members in those districts on June 21. The polls will close on July 20, and the successful candidates will take office for five-year terms at the conclusion of the annual meeting in Seattle.

Research Fund Benefits from Veterinary Participation in Rabies Vaccination Program

The following letter from Dr. D. J. Francisco, chairman of the Oakland County (Mich.) Veterinary Association, transmitted a check for \$1,088.74 to be credited to the AVMA Research Fund:

April 9, 1954

Dear Dr. Hardenbergh:

Our county here in Michigan has annually more reported cases of rabies than in the entire balance of the state. Compulsory vaccination was enacted by the County Board of Supervisors and the Department of Health requested the help of our county veterinary association. We agreed to staff public clinics with veterinary service, gratis, with all money remaining after expenses to be turned over to the AVMA Research Fund. Our services as veterinarians were donated to prevent any possible accusations by opposed groups that we had arranged a compulsory program for private gains. This briefly explains the enclosed check for \$1,088.74 and it is our wish that you accept it on behalf of the Research Fund with our compliments.

We veterinarians here do not favor the public clinics with reduced vaccination fees and free veterinary service as we feel it approaches socialized medicine, but it was a means of getting more dogs vaccinated at a critical time. We would like to avoid a repetition of this next year but have not come up

with the correct workable solution. Any suggestions from your office will be appreciated.

Sincerely,
S/D. J. FRANCISCO, *Chairman,*
Oakland County Veterinary Association.

[In view of the difficult public relations problem always posed whenever and wherever compulsory rabies vaccination programs have to be resorted to, the action of the Oakland County Veterinary Association and its members is a conspicuous example of good veterinary service to the public and fine public relations.—Ed.]

Man Wanted by the FBI

[The FBI has requested the assistance of the JOURNAL to help locate Nick George Montos, wanted on charges of robbery using firearms, who is particularly fond of dogs and is believed to seek the services of veterinarians frequently.—Ed.]

One of the personal characteristics in the background description of Nick George Montos (operating under a number of aliases), a member of the FBI's ten most wanted fugitives since Sept. 8, 1952, is the fact that he is fond of dogs. In the past he owned and showed special interest in a Boston Bull Terrier and in recent months he reportedly acquired a brindle Boxer puppy.

On Aug. 23, 1951, a federal complaint was filed before a U. S. Commissioner at Waycross, Ga., charging Montos with unlawful interstate flight to avoid prosecution for an armed robbery involving the "pistol-whipping" of an elderly couple near Alma, Ga., on Aug. 11, 1951.

This fugitive is one of the nation's top burglars and safe-crackers and in the past has generally operated as part of a gang. Recently, he has allegedly turned to jewel thievery, burglarizing stores with large stocks of jewels in safes.

Nick George Montos reportedly was born on Nov. 8, 1916, at Tampa, Fla. Small in stature and slight in build, he stands 5 ft. 5 in. tall and weighs 160 to 170 lb. He has a ruddy complexion and black hair, which is balding. He has blue eyes and occasionally wears horn-rimmed glasses. He is a habitué of night clubs, is fond of Italian food, and reportedly tips waiters liberally.

This fugitive has escaped from custody on four occasions, and is known to carry firearms and should be considered dangerous.

It is believed that he may be traveling with a female acquaintance, Lila Mae Nail, also a federal fugitive on a charge of harboring Nick George Montos. Lila Mae Nail was born in Birmingham, Ala., is 22 years old, 5 ft. 2 in. tall, weighs 115 lb., has brown eyes and olive complexion, dark-brown naturally curly hair, has an attractive appearance, and speaks with a southern accent.

Any individual having information which may assist in locating Nick George Montos or Lila Mae Nail is requested to notify immediately the Director of the Federal Bureau of Investigation, U. S. Department of Justice, Washington, D. C., or the Special Agent in Charge of the Division of the Federal Bureau of Investigation which is nearest



Nick George Montos

his city, the telephone number of which office will be found on the first page of the local telephone directory.

Report on Second Pan American Veterinary Congress

The Second Pan American Congress of Veterinary Medicine, held in Sao Paulo, Brazil, April 3-10, 1954, was a real success, attendance-wise and otherwise, there being nearly 500 veterinarians registered from 12 countries in the Western Hemisphere and a few foreign delegates. The list of participants, not including women, showed one or more delegates from Argentina, Bolivia, Chile, Colombia, Cuba, Ecuador, Paraguay, Peru, Uruguay, the United States, and Venezuela, with Brazil, the host country, being represented by over 300 regular registrants and 60 veterinary students. In addition, Spain sent an official delegate, also the British Embassy in Buenos Aires, and international agencies such as the Pan American Sanitary office and FAO were represented.

The United States had four participants: Dr. A. E. Bott, Illinois; Dr. George K. Davis, Florida; Dr. Mark Welsh, New York; and Brig. Gen. J. A. McCallam (ret.), AVMA president, who was the official delegate of the Association.

A varied scientific program was presented at plenary sessions and section meetings. In order to carry out the sense of a resolution adopted at the first Pan American Congress held in Lima, Peru, in 1951, the Sao Paulo Congress voted to establish a directing council of Pan American congresses of veterinary medicine for the purpose of linking successive congresses, to

(Continued on page 87)



News From Washington



The House Ways and Means Committee reversed previous action and **excluded physicians from Social Security coverage.** The Social Security Bill passed the House on June 2. It **exempts physicians from coverage but not veterinarians,** dentists, lawyers, osteopaths, or other self-employed. The Senate Finance Committee will hold hearings on the Bill beginning, it is understood, on or about June 14. There is some talk in Washington that the Administration will make an effort to have the Senate Committee blanket physicians in social security, along with other self-employed.

The American Dental Association opposed inclusion of dentists and the AVMA opposed coverage for veterinarians (see JOURNAL, June, 1954: 488). The AVMA has presented a statement to the Senate Finance Committee strongly urging that the House action be reversed with respect to veterinarians.

★ ★ ★

The **Senate Appropriations Committee** has reported to **increase certain amounts for the animal disease prevention and control programs, and for meat inspection over that provided in the House Bill.** The U.S.D.A. 1955 budget estimates did not provide for indemnity payments for cooperative tuberculosis and brucellosis eradication programs. The House and Senate Bills now provide \$873,500 for the above indemnity payments. The Senate Bill restored the amounts requested by the U.S.D.A., \$173,954 and \$385,109, for the eradication of scabies and cattle ticks, respectively. Likewise, the Senate restored the \$540,282 requested by U.S.D.A. for control, importation, shipment, etc. of viruses, serums, toxins, etc., which the House had reduced by \$41,808. The \$135,000 increase in funds for meat inspection, not provided in the House Bill, was granted by the Senate. The differences between the House and Senate bills must be ironed out in conference by representatives from each Committee.

The appearance of Dr. W. L. Boyd, as a representative of the AVMA before the

subcommittee of the Senate Appropriations Committee, undoubtedly was a factor in the Senate increasing or restoring the amounts.

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Subcommittee No. 2, House Armed Services Committee, held **hearings on S-932, First Lieutenant Bill** (see JOURNAL, May, 1954: 408), Tuesday, June 1, 1954. **The AVMA presented its views to the Committee in support of the Bill.** The Department of the Army, spokesman for the Department of Defense, opposed enactment of S-932, which had passed the Senate on April 19, 1954. The Subcommittee reported the Bill favorably to the House Armed Services Committee which, in turn, reported the Bill favorably, on June 15, by unanimous vote to the House.

★ ★ ★

Veterinary officials of the U.S.D.A. advised members of the Advisory Committee on **Vesicular Exanthema Eradication** at a meeting of the Committee in Washington on June 4 that, although progress had been made, **additional measures must be employed to effect complete eradication.** Officials declared experience and research have provided the information necessary to stamp out the disease.

The Advisory Committee, in commending the U.S.D.A. for the progress made in control of V.E., recommended that the Department continue to work with the states to control and eradicate the disease and endorsed a modified eradication program for remaining problem areas; and, where states fail to enforce proposed measures, that federal regulations be amended to restrict interstate movement of all swine, pork and pork products from such areas.

Dr. H. E. Kingman, Jr., AVMA member on the Committee, attended the meeting on June 4.

AVMA Office Address in Washington
Brig. General James A. McCallam (Ret.)
Room 109, 1507 M Street, N.W.
Washington 5, D. C.

(Continued from page 85)

serve as an interim body to conduct necessary business between congresses, and to take such other action as may ensure the betterment of veterinary professional affairs in the Americas. This council set-up was considered more feasible at this time than the organization of a Pan American Veterinary Medical Association.

The Directing Council will be made up of one member and one alternate from each American country, except that the host country for the next congress will have two members. An organizing session of temporary council members was held during the Sao Paulo Congress; the temporary council comprised members selected by the respective delegations present and will serve only until such time as the various countries (as represented by their national veterinary associations) designate their delegates and alternates. General McCallam served as the temporary U. S. member. Dr. Benjamin D. Blood, of the Pan American Sanitary Office in Buenos Aires, was elected general secretary of the Directing Council.

The Council approved a set of statutes at Sao Paulo which will govern its organization and work.

Resolutions adopted by the Second Pan American Congress will be published in a future issue of the JOURNAL.

For the time being, the financing of the work of the Directing Council will be attempted on a voluntary contribution basis rather than on a system of quotas or assessments, as is the case with the Permanent Committee of the International Veterinary Congress. Any individual who would like to contribute to the work of the Directing Council may send check or postal money order to Dr. Benjamin D. Blood, General Secretary, Directing Council of Pan American Veterinary Congresses, Charcas 684, Buenos Aires, Argentina, S. A.

WOMEN'S AUXILIARY

Women's Auxiliary Announces Recipients of 1954 Achievement Awards.—The Women's Auxiliary to the AVMA was pleased to present, for the fifth consecutive year, \$25 and a

Left to right:

James D. Bilberry,
Alabama Polytechnic Institute.
Eugene A. Johnson,
University of California.
Duane N. Rice,
Colorado A. & M. College.

Robert F. Kahrs,
Cornell University.
Stonewall Jackson Shirley, Jr.,
University of Georgia.
Harold C. McCutchan,
University of Illinois.
George W. Beran,
Iowa State College.

Lloyd E. Orsborn,
Kansas State College.
George S. McLarnon,
Michigan State College.
Kenneth G. Gillette,
University of Minnesota.
Charles William Monsees,
University of Missouri.

William J. Roenigh,
Ohio State University.
Ray L. Lessert, Jr.,
Oklahoma A. & M. College.
M. Adrian Gross,
University of Toronto.
Hugh W. Edmonds,
University of Pennsylvania.

Jean-Marie Dionne,
University of Montreal.
Neville P. Clark,
Texas A. & M. College.
Michael E. Thomas,
Tuskegee Institute.
David D. Urie,
State College of Washington.



certificate of achievement to the outstanding student in the senior class of each of the schools of veterinary medicine in the United States and Canada.

Limited space does not permit publication of individual records of these award winners but all give evidence of academic attainment, mature thinking, appreciation of human relationships, and willingness and ability to work with both animals and people successfully.

It is the desire of our Auxiliary to help to stimulate in the students a desire to promote good will and better understanding between the students of veterinary medicine and the campus as a whole.

An outstanding contribution was made by one of our award winners, who, essentially unaided, arranged for the senior medical students to visit with the veterinary medical students. In spite of numerous difficulties, the visit was an outstanding success. The informal intercourse of these two groups, soon to begin their professional careers, contributed immeasurably to the mutual understanding of, and respect for, each other. The visit was enthusiastically received by the medical people who have requested that they be invited again next year. We are sure that these visits will do much to impress upon the young physicians that veterinary medicine is indeed worthy of an honored place among the medical professions and that their relationships through the years will be improved as a consequence.

The students from Ontario and Tuskegee veterinary colleges who received our awards this year were natives of foreign countries—Tel Aviv, Israel, and British West Africa. They were active in promoting better cooperation and more friendly relationships and understanding between native and foreign students on the campus. Their outstanding records of college citizenship contributed much to advancing the standing of the veterinary school and students on their respective campuses and throughout their communities.

I wish to take this opportunity to thank the deans of the schools of veterinary medicine for their cooperation during the past year, in matters pertaining to our annual awards and student loan fund.

S/(MRS. A. E.) MARIE COOMBS,
Second Vice-President.

U. S. GOVERNMENT

Veterinary Personnel Changes.—The following changes in the force of veterinarians in the U.S.D.A. Agricultural Research Service are reported as of May 21, 1954:

NEW APPOINTMENTS

William E. Bechdolt, Los Angeles, Calif.
Paul R. Boriskie, Mexico City, Mex.
Charles L. Champion, Fort Worth, Texas.

Stewart E. Elting, Evansville, Ind.
Wilbur C. Kilpatrick, Seattle, Wash.
George A. Knox, Nashville, Tenn.
George J. B. Murray, Cincinnati, Ohio.
Luke R. Sinclair, Fort Dodge, Iowa.
George L. Smith, Trenton, N. J.
Carey W. Thornton, Jr., Montgomery, Ala.
Roland G. Van Sant, Jacksonville, Fla.
J. W. Vinson, Jackson, Miss.

MILITARY FURLOUGH

Ben A. Brinkman, Denver, Colo.
Lyle K. Miller, San Francisco, Calif.

RESIGNATIONS

Garrie B. Davis, Baltimore, Md.
David O. Noll, Baltimore, Md.
Earl B. Osborn, Phoenix, Ariz.
Rolla C. Sexauer, Boise, Idaho.
(No return from military furlough.)
Richard J. Smith, Spokane, Wash.

RETIREMENTS

Albert H. Julien, Honolulu, Hawaii.
George P. Rebold, Berkeley, Calif.
Merrill L. Wooten, Los Angeles, Calif.

TRANSFERS

George E. Anderson, from Knoxville, Tenn., to Moultrie, Ga.
William W. Brown, Jr., from Mexico City, Mex., to Phoenix, Ariz.
Harry L. Butler, from Brier Hill, N. Y., to Rochester, N. Y.
Joseph F. Derivan, from Cincinnati, Ohio, to Columbus, Ohio.
Frank G. Gillett, from Omaha, Neb., to Portland, Ore.
Owen Hinton, from Moultrie, Ga., to Hialeah, Fla.
Melvin E. Hodgson, from Suffolk, Va., to St. Louis, Mo.
Donald H. Jarvis, from Olympia, Wash., to Spokane, Wash.
Earl M. Jones, from Moultrie, Ga., to Mexico City, Mex.
Ries R. Lindley, from Frankfort, Ky., to Fort Worth, Texas.
Walter Meyers, from New York, N. Y., to Buffalo, N. Y.
George H. Murphy, from Los Angeles, Calif., to Honolulu, Hawaii.
Theodore E. Nichols, from Columbus, Ohio, to Brier Hill, N. Y.
Arthur L. Stigers, from Denver Colo., to Dubuque, Iowa.
Thomas E. Utley, from Rochester, N. Y., to Suffolk, Va.

APPLICATIONS

Applicants — Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., the names of applicants residing within the jurisdictional limits of the constituent associations shall be published once in the JOURNAL.

The following applicants have been certified as members of the constituent association that has jurisdiction over the area in which the applicant resides. This certification was made by the secretary of the constituent association in accordance with Section 2, Article X, of the Administrative By-Laws.

BLUNT, PAUL B.
710 Maverick Bldg., San Antonio, Texas.
D.V.M., Texas A. & M. College, 1938.
CHANDLER, WILLIAM N.
Minier, Ill.
D.V.M., Alabama Polytechnic Institute, 1949.

- DEARBORN, CLARENCE B., JR.
44 Center St., Penacook, N. H.
D.V.S., Ontario Veterinary College, 1936.
- GALLAGHER, JOHN R.
R.F.D. 3, Houlton, Maine.
D.V.M., Ontario Veterinary College, 1948.
- HUTCHISON, J. A.
95 Bayview Rd., Ottawa, Ont.
D.V.M., Ontario Veterinary College, 1947.
- MILLER, BENJAMIN H.
4714 N. E. 105th Ave., Portland, Ore.
D.V.M., Colorado A. & M. College, 1931.
- SOAVE, ORLAND A.
35 Ross Circle, Oakland, Calif.
D.V.M., State College of Washington, 1944.

Applicants — Not Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., notice of all applications from applicants residing outside the jurisdictional limits of the constituent associations, and members of the Armed Forces, shall be published in the JOURNAL for two successive months. The first notice shall give the applicant's full name, school, and year of graduation, post office address, and the names of his endorser.

First Listing

- CAICEDO, CESAR A.
Calle 10, No. 3-33, Apartado Aereo 12-92, Cali, Colombia, S. A.
V.M., National University of Colombia, Bogota, 1939.
Vouchers: R. P. Guerrero and W. S. Gochenour.
- CLARK, ASHLEY J., JR.
8419 S. Summerfield Ave., Whittier, Calif.
D.V.M., Texas A. & M. College, 1944.
Vouchers: R. R. Sigler and H. F. Lancaster.
- DAVIES, FRANK J.
2511 Etna St., Berkeley, Calif.
V.M.D., University of Pennsylvania, 1938.
Vouchers: R. McNellis and J. E. Reid.
- LEONARD, GEORGE A.
9834 Elmar Ave., Oakland, Calif.
D.V.M., Iowa State College, 1939.
Vouchers: R. McNellis and C. W. Gollehon.
- LOWRY, ARLO M.
Wanda, Minn.
V.M.D., University of Pennsylvania, 1953.
Vouchers: J. H. Mark and D. G. Lee.
- SOMOANO, PORFIRIO P.
Ave. Cuauhtemoc, num. 28, Acapulco, Mex.
M.V., National University of Mexico, 1934.
Vouchers: A. Alexander and A. D. Gonzalez.
- TILLMAN, ROBERT W.
7808 Juniper, Prairie Village, Kan.
D.V.M., Colorado A. & M. College, 1953.
Vouchers: P. L. Spencer and J. A. Zacher.
- YARBROUGH, CECIL S., JR.
1103 Volusia Ave., Daytona Beach, Fla.
D.V.M., Alabama Polytechnic Institute, 1942.
Vouchers: E. S. Watkins and R. G. Miesbauer.

Second Listing

- DAVIS, CHARLES W., 1641 Milford, Houston, Texas.
- GILCHRIST, ERNEST W., 192 Calvington Dr., Beverly Hills, Ont.
- HUGHES, GEORGE M., Post Veterinarian, Veterinary Hospital, Camp Stoneman, Calif.
- INNES, RUCKER G., P.O. Box 1372, Modesto, Calif.
- JORGE, JOAO BRITO, Rua General Glicerio 144, Apto, 204, Laranjeiras, Rio de Janeiro, Brazil.

1954 Graduate Applicants

The following are graduates who have recently received their veterinary degree and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of student chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (*) after the name of a school indicates that all of this year's graduates have made application for membership.

First Listing

University of Georgia*

All of the following applicants, with the exception of those otherwise noted, were vouched for by Drs. V. B. Robinson and T. J. Jones.

- ABSHER, COLEMAN M., D.V.M.
Rt. 7, Box 376, Statesville, N. Car.
Vouchers: W. A. Knapp, Jr. and T. J. Jones.
- ANDREWS, WAYLAND D., D.V.M.
4000 George Washington Highway, Portsmouth, Va.
Vouchers: A. M. Mills and T. J. Jones.
- AUSTIN, LOYS H., D.V.M.
Rt. 4, Albemarle, N. Car.
Vouchers: E. W. Causey and A. M. Mills.
- AUSTIN, WILLIAM L., D.V.M.
1211 Fourth St., S.W., Moultrie, Ga.
Vouchers: E. W. Causey and T. J. Jones.
- BARKERS, WILLIAM K., JR., D.V.M.
324 Marshall Terrace, Danville, Va.
Vouchers: V. B. Robinson and W. M. Strong.
- BARKSDALE, M. T., JR., D.V.M.
1015 W. Washington Rd., East Point, Ga.
- BERZON, DAVID R., D.V.M.
457 Parkway Dr., N. E., Atlanta, Ga.
Vouchers: A. M. Mills and W. M. Strong.
- BLALOCK, HORACE G., JR., D.V.M.
Baskerville, Va.
- BRADLEY, RICHARD E., D.V.M.
Box 316, Campus Station, Athens, Ga.
Vouchers: T. J. Jones and A. M. Mills.
- BRANCH, JAMES C., JR., D.V.M.
Rt. 1, Enigma, Ga.
Vouchers: T. J. Jones and E. W. Causey.
- CATLIN, JACK E., D.V.M.
Box 338, Ag. Hill, Athens, Ga.
- CLARK, WILLIAM B., JR., D.V.M.
Prefab. 4-D, Ag. Campus, Athens, Ga.
Vouchers: J. D. Morton and T. J. Jones.

- CLARKSON, THOMAS B., JR., D.V.M.
Box 197, Ag. Campus Station, Athens, Ga.
Vouchers: W. A. Knapp, Jr., and Paul L. Piercy.
- CORDELL, GERALD K., D.V.M.
7029 S. Chappel Ave., Chicago, Ill.
Vouchers: D. E. Cooperrider and E. W. Causey.
- DICKSON, WALTER W., D.V.M.
503 S. Clay St., Gastonia, N. Car.
Vouchers: P. L. Piercy and A. L. Kleckner.
- EARWOOD, LUTHER J., D.V.M.
Liberty St., Biltmore, N. Car.
Vouchers: P. L. Piercy and A. M. Mills.
- ESKEW, WALTER R., JR.
Rt. 1, Fairburn, Ga.
Vouchers: J. D. Morton and T. J. Jones.
- FAULKNER, CHARLES E., D.V.M.
3213 Virginia Ave., Landsdowne, Md.
Vouchers: A. M. Mills and F. T. Lynd.
- FROM, THOMAS P., D.V.M.
Blueberry Hill Lane, South Sudbury, Mass.
Vouchers: E. W. Causey and A. M. Mills.
- GAINES, GERALD D., D.V.M.
116 N. Jackson St., Fitzgerald, Ga.
Vouchers: E. W. Causey and T. J. Jones.
- GIVENS, PRESTON M., D.V.M.
R.F.D. 1, Creighton Rd., Richmond, Va.
Vouchers: T. J. Jones and L. K. Taul.
- HARLEY, HERSEL S., D.V.M.
Ashland, Va.
Vouchers: A. M. Mills and T. J. Jones.
- HITE, STEPHEN C., D.V.M.
1818 Matorx Ave., Petersburg, Va.
Vouchers: A. M. Mills and S. S. Kreuz.
- JOHNSON, JOSEPH J., D.V.M.
Willoughby Beach Rd., Edgewood, Md.
Vouchers: J. D. Morton and T. J. Jones.
- KING, JAMES T., D.V.M.
Thomaston, Ga.
Vouchers: E. W. Causey and A. M. Mills.
- KNAUFF, DONALD R., D.V.M.
1356 South Lumpkin St., Athens, Ga.
Vouchers: V. B. Robinson and A. M. Mills.
- LEE, DONALD E., D.V.M.
153 Temple Ave., Newnan, Ga.
Vouchers: S. S. Kreuz and T. J. Jones.
- LINDSEY, ARIS C., D.V.M.
Box 337, Washington, Ga.
Vouchers: D. E. Cooperrider and V. B. Robinson.
- LOPER, KENNETH C., D.V.M.
Sykesville, Md.
Vouchers: E. W. Causey and V. B. Robinson.
- MACPHERSON, RALPH D., JR., D.V.M.
Box 847, Easton, Md.
Vouchers: T. J. Jones and A. M. Mills.
- MERIWETHER, WILLIAM F., D.V.M.
590 Candler St., N. E., Atlanta, Ga.
Vouchers: E. W. Causey and T. J. Jones.
- MORRISON, MILLARD V., D.V.M.
Bentonville, Va.
Vouchers: A. M. Mills and E. W. Causey.
- MORRISON, SPENCER H., D.V.M.
595 Milledge Circle, Athens, Ga.
Vouchers: E. W. Causey and T. J. Jones.
- MULES, DONALD E., D.V.M.
14 N. Symington Ave., Catonsville, Md.
Vouchers: L. K. Taul and E. W. Causey.
- RICHARDSON, JOHN H., D.V.M.
224 South Adams St., College Park, Ga.
Vouchers: L. K. Taul and E. W. Causey.
- RIGGS, BRUCE S., D.V.M.
Big Stone Gap, Va.
Vouchers: T. J. Jones and F. T. Lynd.
- ROBINSON, ALBERT K., D.V.M.
Rt. 6, Box X-29, Statesville, N. Car.
Vouchers: A. M. Mills and T. J. Jones.
- RUTLEDGE, JAMES B., JR., D.V.M.
Rocks, Md.
Vouchers: S. S. Kreuz and A. M. Mills.
- SALTER, McTYIER, D.V.M.
Johnson St., Dawson, Ga.
- SANDERS, DORSEY A., JR., D.V.M.
605 South West 10th St., Gainesville, Fla.
Vouchers: D. A. Sanders, Sr. and T. J. Jones.
- SHACKLETON, CHARLES C., D.V.M.
3017 Marlborough Rd., W., Charlotte, N. Car.
Vouchers: L. Taul and P. E. Hoffman.
- SHIRLEY, STONEWALL J., D.V.M.
313 N. Peterson Ave., Douglas, Ga.
Vouchers: P. E. Hoffman and E. W. Causey.
- SIMON, SOL J., D.V.M.
Rice, Va.
Vouchers: L. K. Taul and V. B. Robinson.
- SMITH, ROY R., D.V.M.
Rt. 1, Cleveland, Va.
Vouchers: T. J. Jones and L. K. Taul.
- STARA, JERRY F., D.V.M.
710 Oglethorpe Ave., Athens, Ga.
- STATON, LEMUEL B., D.V.M.
1513 W. Thomas St., Rocky Mount, N. Car.
Vouchers: A. M. Mills and E. W. Causey.
- TIPPINS, JESSE G., D.V.M.
Claxton, Ga.
Vouchers: J. D. Morton and A. M. Mills.
- TREADWELL, ROSCOE E., D.V.M.
R. F. D., Culloden, Ga.
Vouchers: W. M. Strong and W. R. Knapp, Jr.
- WALBERT, DONALD T., D.V.M.
R. F. D. 2, Chestertown, Md.
Vouchers: A. M. Mills and L. K. Taul.
- WALKER, JOHN S., D.V.M.
East Longwood Dr., Huntsville, Ala.
Vouchers: V. B. Robinson and E. W. Causey.
- WEBB, WILLIAM G., D.V.M.
Richland, Ga.
Vouchers: A. M. Mills and T. J. Jones.
- WILLIAMS, JACK L., D.V.M.
Rt. 1, Kissimmee, Fla.
Vouchers: D. E. Cooperrider and J. D. Morton.
- WILLIAMS, ROBERT G., D.V.M.
1907 Ellicott St., Tampa, Fla.
Vouchers: E. W. Causey and J. D. Morton.
- WITT, HERBERT N., D.V.M.
391 Pinecrest Dr., Athens, Ga.
Vouchers: E. W. Causey and F. T. Lynd.

University of Missouri

- BAIRD, RONALD E., D.V.M.
Norborne, Mo.
Vouchers: A. H. Groth and E. F. Ebert.
- BAKER, HERMAN C., D.V.M.
Bogard, Mo.
Vouchers: A. W. Uren and A. A. Case.
- BLUM, ALBERT E., D.V.M.
Hi-way 61 and 67, Crystal City, Mo.
Vouchers: H. H. Berrier and A. A. Case.
- BROWN, ROBERT D., D.V.M.
1827 Fredrick Ave., St. Joseph, Mo.
Vouchers: O. S. Crisler and A. W. Uren.
- BUZARD, WILLIAM D., D.V.M.
Bogard, Mo.
Vouchers: J. E. Weinman and H. C. McDougle.
- DAVID, FRED S., D.V.M.
Rt. 4, Hickman Mills, Mo.
Vouchers: A. W. Uren and E. F. Ebert.
- DAVIS, ROBERT W., D.V.M.
Veterinary Clinic, Columbia, Mo.
Vouchers: H. H. Berrier and A. A. Case.
- DIEKROEGER, CHARLES W., JR., D.V.M.
Gerald, Mo.
Vouchers: E. F. Ebert and A. W. Uren.
- FISCHER, GEORGE F., D.V.M.
Garden City, Mo.
Vouchers: E. F. Ebert and O. S. Crisler.
- FORREST, HARRY J., D.V.M.
Rt. 1, Moberly, Mo.
Vouchers: O. S. Crisler and E. F. Ebert.
- FRESE, LEO J., D.V.M.
Portage Des Sioux, Mo.
Vouchers: A. W. Uren and E. F. Ebert.
- GOODNIGHT, VENTON D., D.V.M.
Star Route, Versailles, Mo.
Vouchers: E. F. Ebert and A. A. Case.
- GRIEB, W. A., D.V.M.
616 Euclid, Monett, Mo.
Vouchers: A. W. Uren and A. A. Case.
- HICKCOX, JOHN P., D.V.M.
406 E. South, California, Mo.
Vouchers: E. F. Ebert and A. A. Case.
- HUBBARD, JAMES W., D.V.M.
R. R. 3, Salem, Mo.
Vouchers: E. F. Ebert and A. H. Groth.
- KEENEY, IREATESS C., D.V.M.
Houston, Mo.
Vouchers: J. T. McGinity and E. F. Ebert.
- LANDAKER, WALTER E., JR., D.V.M.
309 Forest Ave., Columbia, Mo.
Vouchers: A. W. Uren and H. H. Berrier.
- LINNERSON, GLENN R., D.V.M.
4017 Indiana, Kansas City, Mo.
Vouchers: E. F. Ebert and A. H. Groth.
- MADDEN, FRED W., D.V.M.
P. O. Box 553, Grayson Veterinary Hospital,
Sherman, Texas.
Vouchers: L. D. Kintner and A. H. Groth.
- MONSEES, CHARLES W., D.V.M.
Sanford Apts., Columbia, Mo.
Vouchers: A. W. Uren and S. Smith.

- MOORE, CHARLES E., D.V.M.
Lounsburg, Mo.
Vouchers: O. S. Crisler and E. F. Ebert.
- PARKER, JACK O., D.V.M.
111 Fairway Village, Columbia, Mo.
Vouchers: E. F. Ebert and C. J. Bierschwal, Jr.
- SWANSTONE, FLOYD T., D.V.M.
R. R. 2, Boonville, Mo.
Vouchers: H. H. Berrier and A. W. Uren.
- UTGARD, HERBERT M., D.V.M.
Box 32, North Miami Beach, Fla.
Vouchers: A. W. Uren and A. C. Case.
- WILLIAMS, LESLIE W., D.V.M.
3923 Bell St., Kansas City, Mo.
Vouchers: A. W. Uren and A. A. Case.

University of Minnesota*

All of the following applicants, with the exception of those otherwise noted, were vouched for by Drs. D. K. Sorensen and H. H. Hoyt.

- BAKKE, ORLIN W., D.V.M.
1756 Grand Ave., St. Paul, Minn.
- BENDICKSON, AXEL H., D.V.M.
c/o Hotel LeRoy, LeRoy, Minn.
- BONNETT, WALTER A., D.V.M.
Faribault, Minn.
- BOOKS, CLYDE L., D.V.M.
1642 Charles, St. Paul, Minn.
- BRANDLY, CHARLES T., D.V.M.
Boyceville, Wis.
- BRENSIKE, DANIEL R., D.V.M.
Rosendale, Wis.
Vouchers: D. K. Sorensen and J. N. Campbell.
- BROWN, CHARLES W., D.V.M.
728 4th St., Granite Falls, Minn.
Vouchers: H. H. Hoyt and E. A. Usinik.
- CARLSON, DELBERT G., D.V.M.
Rowley Memorial Hospital, 53-57 Bliss St.,
Springfield, Mass.
- CATES, WILLIAM F., D.V.M.
Prior Lake, Minn.
Vouchers: D. K. Sorensen and R. Zemjanis.
- CURTIN, TERRENCE M., D.V.M.
Emery, S. Dak.
- DZIUK, HAROLD E., D.V.M.
c/o Edmund W. Dziuk, Foley, Minn.
Vouchers: A. L. Good and P. B. Hammond.
- ENGEL, RONALD E., D.V.M.
7560 Central Ave., River Forest, Ill.
- FREDERICKSON, NORMAN I., D.V.M.
2109-A Hoyt Ave., W., St. Paul, Minn.
- FUGLSANG, HAROLD H., D.V.M.
625 Milwaukee Ave., Hutchinson, Minn.
- GILLETTE, KENNETH G., D.V.M.
518 Prospect Ave., Cloquet, Minn.
- GREFE, RAYMOND L., D.V.M.
Winnebago, Minn.
Vouchers: J. P. Arnold and C. E. Rehfeld.
- HANSON, RODNEY C., D.V.M.
Winthrop, Minn.
- HARBERTS, CARL J., D.V.M.
Rt. 1, Worthington, Minn.

- HARTUNG, ALFRED C., D.V.M.
Plum City, Wis.
- HOMME, PAUL J., D.V.M.
366 Oak St., Granite Falls, Minn.
- HORNE, WILLIAM A., D.V.M.
2109-D Hoyt Ave., W., St. Paul, Minn.
- JOHNSON, CARL L., D.V.M.
718 N. Sibley Ave., Litchfield, Minn.
- JOHNSON, DONALD D., D.V.M.
Chisago City, Minn.
- KANSANBACK, LYLE, D.V.M.
Slayton, Minn.
Vouchers: J. P. Arnold and H. H. Hoyt.
- KARNIS, EUGENE K., D.V.M.
Morris, Minn.
- KLINGSPORN, ALBERT L., D.V.M.
R. R. 2, Ellsworth, Wis.
- KOEPKE, GEORGE, D.V.M.
4801 15th Ave., S., Minneapolis, Minn.
- LARSON, ALLEN F., D.V.M.
Greenbush, Minn.
- LUEDKE, ALBERT J., D.V.M.
Veterinary Science Department, Pennsylvania
State University, State College, Pa.
- MANTHEL, DONALD O., D.V.M.
Loretto, Minn.
- MERRY, GORDON D., D.V.M.
Sun Prairie, Wis.
Vouchers: D. K. Sorensen and R. Zemjanis.
- MONSON, BENNITT E., D.V.M.
Grand Meadow, Minn.
- OINONEN, CHARLES A., D.V.M.
Westby, Wis.
- OLSON, HARRY R., D.V.M.
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 KAEBERLE, MERLIN L., D.V.M., R. R. 3, Vermillion, S. Dak.
 KELLER, CARL A., D.V.M., 147 Sunshine Dr., San Antonio, Texas.
 LAITINEN, DOUGLAS W., D.V.M., 993 N. Main St., West Hartford, Conn.
 LESLIE, HUGH A., D.V.M., 903 S. Atlantic, Dillon, Mont.
 MCLEAN, DONALD G., D.V.M., Carbondale, Colo.
 MILLER, WOODROW W., D.V.M., Rt. 1, Box 83, Windsor, Colo.
 NEUSWANGER, HENRY C., D.V.M., 601 Kalmia, Boulder, Colo.
 OAKES, JOHN T., D.V.M., 171 N. Upper St., c/o Del-Tor Clinic, Lexington, Ky.
 ORCHARD, THOMAS F., D.V.M., 1025 13th St., Bismarck, N. Dak.
 PARVIN, CHARLES W., D.V.M., 210½ W. Lake, Fort Collins, Colo.
 PIANO, MARCUS A., D.V.M., 72 Vet Village, Fort Collins, Colo.
 RICE, DUANE N., D.V.M., No. 6, Vet Village, Fort Collins, Colo.
 ROLOFSON, ROBERT G., D.V.M., Box 217, Cripple Creek, Colo.
 SAYA, MARVIN F., D.V.M., Box 263, Crested Butte, Colo.
 SCHRAMM, A. WILLIAM, D.V.M., 353 N. Foothill Rd., Beverly Hills, Calif.
 SHOUSE, CLYDE L., D.V.M., Angell Memorial Animal Hospital, 180 Longwood Ave., Boston, Mass.
 SINGER, ROBERT H., D.V.M., 610 E. First St., Pana, Ill.
 SMYLLIE, DONALD J., D.V.M., Wellington, Colo.
 SNYDER, ROBERT D., D.V.M., Conde, S. Dak.
 SOHRBECK, JACK N., D.V.M., 612 Armstrong St., Ft. Collins, Colo.
 STAPLES, GEORGE E., D.V.M., Kanosh, Utah.
 STEVES, FOREST E., D.V.M., 724 Monroe, N. E., Albuquerque, N. M.
 STEWART, CHARLES R., D.V.M., Sanford, Colo.
 SWIEZY, ROMAN A., D.V.M., 3125 N. W. 33rd St., Miami, Fla.
 TETER, ROY E., D.V.M., Fairplay, Colo.
 THOMPSON, MYRON W., JR., D.V.M., 911 E. 13th Ave., Denver, Colo.
 UECKER, CHARLES F., D.V.M., 137 8th Ave., West, Dickinson, N. Dak.
 WALL, WILLIAM W., D.V.M., 1325 N. 7th, Grand Junction, Colo.
 WALLACE, GORDON D., D.V.M., 2945 E. 26th Ave., Denver, Colo.

Cornell University*

AARONSON, MORTON, D.V.M., 321 West 90 St., New York, N. Y.

- BERRY, NICHOLAS, D.V.M., 2235 Elmwood Ave., Buffalo, N. Y.
- CAMERON, THOMAS P., D.V.M., 212 E. Forest Ave., West Englewood, N. J.
- CARROLL, WILLIAM E., D.V.M., 111 West Yates St., Ithaca, N. Y.
- COATES, HELEN V., D.V.M., South River Rd., Scottsville, N. Y.
- CORR, CLYDE A., D.V.M., 142 Veterans Pl., Ithaca, N. Y.
- DEELEY, MAURICE G., D.V.M., Durhamville, N. Y.
- DELAHUNT, CHARLES S., D.V.M., 30 Pine Ave., Floral Park, N. Y.
- DELLERS, ROBERT W., D.V.M., 39-82 65 Place, Woodside, N. Y.
- DYGERT, DEWITT D., D.V.M., Vaughn Street, Springville, N. Y.
- FELLENBAUM, STANLEY, D.V.M., 2120 Harrison Ave., Bronx, N. Y.
- FREEDMAN, ROBERT W., D.V.M., 9 Sunset Ave., Glen Cove, L. I., N. Y.
- FRENCH, HERBERT R., D.V.M., 47 Adams St., Brockport, N. Y.
- FREUND, RICHARD A., D.V.M., 127 Elmwood Ave., Ho-Ho-Kus, N. J.
- FRTZ, DONALD H., D.V.M., Cincinnati, N. Y.
- HUME, WILLIAM T., D.V.M., R.D. 2, Ithaca, N. Y.
- HYDE, JOHN L., D.V.M., 320 The Parkway, Ithaca, N. Y.
- KAHRS, ROBERT F., D.V.M., 91 Oak St., Lynbrook, N. Y.
- KAVANAUGH, JOHN F., D.V.M., 21 Elmwood St., Albany, N. Y.
- LEBISH, IRWIN J., D.V.M., 1500 Grand Concourse, New York, N. Y.
- LERNER, MURRAY M., D.V.M., 353 E. Veterans Place, Ithaca, N. Y.
- LEWIS, BERTRAM, D.V.M., 175-40 Grand Central Parkway, Jamaica, N. Y.
- MARSH, HENRI C., D.V.M., 171 Lincoln Ave., Elberon, N. J.
- MARSHALL, VINCENT, D.V.M., 213 Dryden Rd., Ithaca, N. Y.
- MATOCHIK, JOHN A., JR., D.V.M., R. F. D. 1, Ft. Edward, N. Y.
- MAURICE, GEORGE E., D.V.M., 22 School St., Shrewsbury, Mass.
- MCBRIDE, KEITH F., D.V.M., 262 William St., Tonawanda, N. Y.
- MELBY, EDWARD C., JR., D.V.M., North Ferrisburg, Vt.
- MESSERSMITH, ROBERT E., D.V.M., 633 W. Park Ave., Trenton, N. J.
- MILLER, RICHARD E., D.V.M., Gardiner, N. Y.
- MILLER, ROBERT D., D.V.M., 45 Du Bois St., Wallkill, N. Y.
- MURRAY, GARTH A., D.V.M., New York State Veterinary College, Ithaca, N. Y.
- NEWMAN, DONALD J., D.V.M., New York State Veterinary College, Ithaca, N. Y.
- NYKAMP, HUGO J., D.V.M., Hamlin, N. Y.
- PATTERSON, ROBERT E., D.V.M., Reisterstown, Md.
- PHILLIPS, PAUL J., D.V.M., 346 E. Vetsburg, Ithaca, N. Y.
- PORT, ALAN J., D.V.M., 715 Allen St., Syracuse, N. Y.
- ROBBIN, JAMES, D.V.M., 30 Greenwich Ave., New York, N. Y.
- ROBINSON, WARREN A., D.V.M., Nassau, N. Y.
- SCHRYVER, HERBERT F., D.V.M., 36 Waverly Ave., Lynbrook, N. Y.
- SUTHERLAND, CEYLON M., D.V.M., R.D. No. 1, Hamilton, N. Y.
- STEWART, EDWARD W., D.V.M., 563 Woodbridge St., Manchester, Conn.
- STOLL, ROBERT S., D.V.M., Rome, Pa.
- VEGA, RAMON A., JR., D.V.M., Box 3296, Est. No. 1, Panama, Republic of Panama.
- WILLSON, JOHN E., D.V.M., 610 Glen Burn Rd., Clarks Green, Pa.
- WILKES, JACK E., D.V.M., 34 Cedar St., Batavia, N. Y.
- WISWALL, IRVING W., D.V.M., Glenwood Ave., Glens Falls, N. Y.
- WYATT, DAVID E., D.V.M., 23 Dryden Blvd., Lakewood, R. I.
- University of Illinois**
- BAHE, HAROLD H., D.V.M., Hampshire, Ill.
- BRANZ, ELWIN E., D.V.M., R. R. 1, Pontiac, Ill.
- FRICKE, FREDERICK E., D.V.M., 4718 Belle Plaine Ave., Chicago, Ill.
- HEFFERNAN, HAROLD J., D.V.M., R. R. 1, Champaign, Ill.
- LYKINS, JOHN D., D.V.M., Mansfield, Ill.
- MCCUTCHAN, HAROLD C., D.V.M., R. R. 1, Plymouth, Ill.
- NADLER, JAMES H., D.V.M., Peotone, Ill.
- NEHRKORN, WALTER, D.V.M., Lanark, Ill.
- TAFT, RAOL J., D.V.M., Staunton, Ill.
- ZABIN, JAMES G., D.V.M., 880 Algonquin Rd., Des Plaines, Ill.
- Kansas State College***
- ALLEN, ROBERT W., D.V.M., 952 Walker Ave., Kansas City, Kan.
- ANDERSON, LEONARD A., D.V.M., 5911 N. 34th St., Omaha, Neb.
- BENNETT, HOWARD F., D.V.M., Rt. 3, Garnett, Kan.
- BLANCHARD, HARRY F., D.V.M., 38 Locust, Parsons, Kan.
- BOYDSTON, DEWEY L., D.V.M., Rt. 4, Rogers, Ark.
- BRANIGAN, THOMAS L., D.V.M., 904 Bluemont Ave., Manhattan, Kan.
- BRUCE, ERNEST E., D.V.M., 29-D Elliot Courts, Manhattan, Kan.
- CRAWFORD, LESLIE B., D.V.M., 53-D Hilltop Cts., Manhattan, Kan.
- CUMRO, DENNIS E., D.V.M., Hollenberg, Kan.
- CUMRO, LOUIS B., D.V.M., Hollenberg, Kan.
- DARLING, DEAN A., D.V.M., Seward, Neb.
- DILL, RAYMOND E., D.V.M., R.F.D. 3, Sterling, Kan.
- EARLY, CHARLES M., D.V.M., 507 South D St., Arkansas City, Kan.
- FULLER, CHARLES E., D.V.M., 1100 South 4th St., Leavenworth, Kan.

GIGSTAD, ALFRED O., D.V.M., Atchison Animal Clinic, Atchison, Kan.
 GOERING, WINSTON K., D.V.M., 615 Sixth St., S., Nampa, Idaho.
 GOFREED, EDWARD, D.V.M., 227 E. 203 St., Bronx, N. Y.
 GROSS, ROBERT U., D.V.M., 734 East 6th, Russell, Kan.
 HAINES, CHARLES E., JR., D.V.M., Box 504, Manhattan, Kan.
 HEISER, HAROLD W., JR., D.V.M., 918 S. Burke St., Fort Scott, Kan.
 HEISER, ROBERT G., D.V.M., 918 Burke St., Fort Scott, Kan.
 HERBERG, WILLIAM W., D.V.M., St. Peter, Minn.
 HERREN, CHARLES E., D.V.M., R.F.D. 1, Box 219, Jacksonville, Ark.
 JOHNSON, PETER JR., D.V.M., R.R. 11, Lafayette, Ind.
 KAISER, FRANCIS E., D.V.M., 1137 Main St., Osawatomie, Kan.
 KUHLMANN, JAMES H., D.V.M., 235 S. 38th St., Lincoln, Neb.
 LEONARD, PATRICK G., D.V.M., 1721 Humboldt St., Manhattan, Kan.
 LESLIE, GLENN L., D.V.M., Belvidere, Neb.
 LUCKEROTH, NORMAN A., D.V.M., 613 N. 10th, Seneca, Kan.
 McDONALD, CLIAL D., D.V.M., 127 West Hazel, Garden City, Kan.
 MAGRATH, JOSEPH M., D.V.M., 116 West E. St., McCook, Neb.
 MALONEY, CHARLES H., D.V.M., Afton, Okla.
 MORRISSETTE, MAURICE C., D.V.M., Clyde, Kan.
 NICKERSON, DONALD L., D.V.M., 403 Adams St., Ottawa, Ill.
 O'DONNELL, FRANK A., D.V.M., Louisburg, Kan.
 ORSBORN, LLOYD E., D.V.M., R. R. 3, Wamego, Kan.
 PAUL, CHARLES H., D.V.M., Mayfield, Kan.
 PETERSON, JOHN T., D.V.M., 1-C Elliot Court, Manhattan, Kan.
 POTTROFF, LLOYD W., D.V.M., Box 407, Liberal, Kan.
 RUMSEY, REED R., D.V.M., Soldier, Kan.
 SCHNITZLER, F. CHARLES, D.V.M., 2011 S. Hillside St., Wichita, Kan.
 SCHRADER, JACK W., D.V.M., 45-A Hilltop Courts, Manhattan, Kan.
 SEATON, VAUGHN A., D.V.M., Rt. 3, Abilene, Kan.
 SHILL, OTTO S., JR., D.V.M., 47-A Hilltop Courts, Manhattan, Kan.
 SHUMAN, DONALD G., D.V.M., School of Veterinary Medicine, Kansas State College, Manhattan, Kan.
 SPAHR, BURRELL D., D.V.M., 19-A Elliot Cts., Manhattan, Kan.
 SPROWLS, J. A., D.V.M., 16-A Elliot Courts, Manhattan, Kan.
 STRAFUSS, ALBERT C., D.V.M., Rt. 2, Manhattan, Kan.
 SWANN, SORONOA, D.V.M., 239 Park, Merriam, Kan.

SWANSON, JOHN J., JR., D.V.M., 3038 N. 22nd, Kansas City, Kan.
 SWENSON, CHARLES B., D.V.M., Gove, Kan.
 TODD, ELDON M., D.V.M., c/o F. W. Thompson, 908 Cleveland, Des Moines, Iowa.
 TUTTLE, JOHN N., JR., D.V.M., Change Bridge Rd., Montville, N. J.
 WAGNER, JOSEPH W., D.V.M., 1512 Webster, Topeka, Kan.
 WASSON, GORDON B., D.V.M., 333 Emerson, Bonner Springs, Kan.
 WHEATLEY, JOSEPH S., D.V.M., Idana, Kan.
 WOOD, EARL C., D.V.M., Elmdale, Kan.
 WORTHINGTON, MELVIN L., D.V.M., 30-B Elliot Cts., Manhattan, Kan.

Michigan State College

BECKWITH, JEAN ANN, D.V.M., 7278 Milwaukee Ave., Niles, Ill.

University of Pennsylvania

REICHARD, ROBERT F., V.M.D., Rt. 1, Macungie, Pa.

COMMENCEMENTS

Alabama Polytechnic Institute.—At the 1954 commencement exercises of the School of Veterinary Medicine, Alabama Polytechnic Institute, the following 61 candidates were presented for the D.V.M. degree.

Luther T. Albert
 Robert E. Barnhart
 James Basco
 Robert B. Beall
 Norman G. Bearden
 David H. Bentley
 Samuel T. Bickley
 James D. Bilberry
 John C. Bloxham
 Carl S. Bozeman
 William J. Bryan
 W. Clyde Burns
 William D. Bush
 William W. Canon
 Henry E. Childers
 Alton P. Condra, Jr.
 John E. Cutts
 Richard B. Davis
 Roy L. Donaldson
 J. Harold Duke
 Timon G. Dukes
 John L. Durr
 Orin L. Ebersold
 N. H. Eubank
 Daniel Fitzpatrick
 Harold E. Gossett
 Leonard B. Gray
 Aaron H. Groth, Jr.
 C. William Hart
 Ernest E. Hinson
 Emmett E. Houey

Charles W. James
 R. Hurdwick Kay
 Edward L. Kirkland
 Jimmy E. Lee
 Veldie V. Middleton
 Samuel R. Monroe
 Robert W. Moore
 Donald B. Nelson
 Wilfred E. Noel
 Charles H. Pate
 James A. Peters
 Shelton Pinkerton
 Ottis L. Poirevint
 Edwin S. Randall
 George R. Rice
 Eulan A. Richardson
 Calvin W. Schwabe
 Leon H. Sellers
 H. Scott Shanklin
 John C. Shaul
 Frederick Sherman
 David R. Steadham
 Robert H. Stine
 Clifton L. Strickland
 Robert E. Taylor
 Norman D. Thurmond
 Harold P. Travasos
 Thomas W. Weatherford
 W. Waldo Williams
 Donald W. Winkler

Cornell University.—At the 1954 commencement exercises of the New York State Veterinary College, Cornell University, on June 14, the following 48 candidates were presented for the D.V.M. degree.

(Continued on page 100)

Graduating Class, 1954, New York State Veterinary College, Cornell University



Front row (left to right)—Mascot, Dr. J. Bentinck-Smith, Dr. P. Olafson, Dr. M. E. Miller, Dean W. A. Hagan, Dr. E. P. Leonard, Dr. M. G. Fincher, Dr. R. W. Dougherty, Dr. A. G. Danks, and Helen V. Coates.

Second row—Edward W. Stewart, Richard E. Miller, Robert D. Miller, Robert E. Messersmith, Edward C. Melby, Jr., Henri C. Marsh, Donald J. Newman, Robert F. Kahrs, Stanley Fellenbaum, Nicholas Berry, Robert S. Stoll, Bertram Lewis, Irwin J. Lebish, Herbert R. French, and Dewitt D. Dygert.

Third row—Ramon T. A. Vega, Jr., John E. Willson, Donald H. Fritz, Warren A. Robinson, William T. Hume, Jack E. Willes, George E. Maurice, Clyde A. Corr, Thomas P. Cameron, Keith F. McBride, Robert W. Dellers, David E. Wyatt, Garth A. Murray, Murrey M. Lerner, and John A. Matochik, Jr.

Back row—Vincen Marshall, John F. Kavanaugh, Morton Aaronson, Herbert F. Schryver, James Robbin, Robert E. Patterson, Robert W. Freedman, Alan J. Port, Irving W. Wiswall, John L. Hyde, Hugo J. Nylamp, Charles S. Delahunt, Ceylon M. Sutherland, Maurice G. Deeley, Richard A. Freund, William E. Carroll, and Paul J. Phillips.

(Continued from page 98)

Morton Aaronson
Nicholas Berry
Thomas P. Cameron
William E. Carroll
Helen V. Coates
Clyde A. Corr
Maurice G. Deeley
Charles S. Delahunt
Robert W. Dellers
Dewitt D. Dygert
Stanley Fellenbaum
Robert W. Freedman
Herbert R. French
Richard A. Freund
Donald H. Fritz
William T. Hume
John L. Hyde
Robert F. Kahrs
John F. Kavanaugh
Irwin J. Lebish

Murray M. Lerner
Bertram Lewis
Keith F. McBride
Henri C. Marsh
Vincent Marshall
John A. Matochik, Jr.
George E. Maurice
Edward C. Melby, Jr.
Robert E. Messersmith
Richard E. Miller
Robert D. Miller
Garth A. Murray
Donald J. Newman
Hugo J. Nykamp
Robert E. Patterson
Paul J. Phillips
Alan J. Port
James Robbin
Warren A. Robinson
Herbert F. Schryver

Edward W. Stewart
Robert S. Stoll
Ceylon M. Sutherland
Ramon A. Vega, Jr.

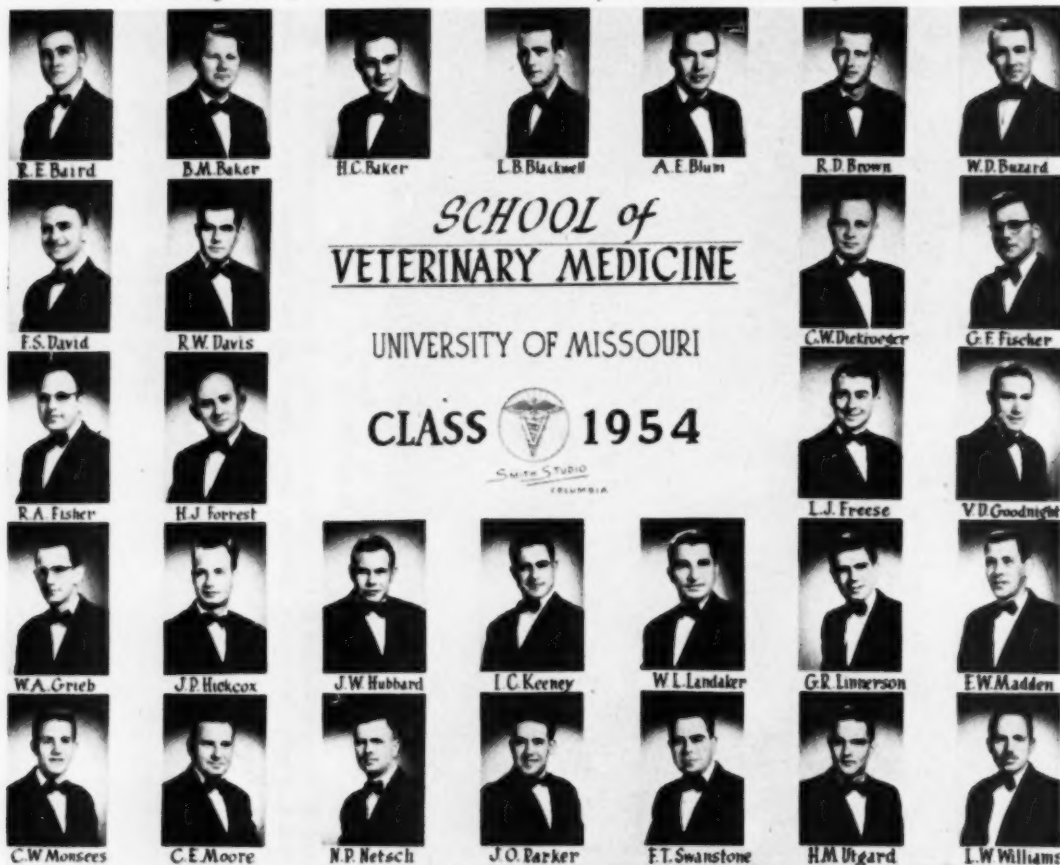
Jack E. Wilkes
John E. Willson
Irving W. Wiswall
David E. Wyatt

University of Missouri.—At the 1954 commencement exercises of the School of Veterinary Medicine, University of Missouri, on June 12, the following 28 candidates were presented for the D.V.M. degree.

Ronald E. Baird
Bernard M. Baker
Herman C. Baker
Lewis B. Blackwell
Albert E. Blum
Robert D. Brown
William D. Buzard
Fred S. David
Robert W. Davis
C. W. Diekroeger, Jr.
George F. Fischer

Robert A. Fisher
Harry J. Forrest
Leo J. Freese
Venton D. Goodnight
W. A. Grieb
John P. Hickcox
James W. Hubbard
Ireatus C. Keeney
Walter E. Landaker, Jr.
Glenn R. Linnerson
Fred W. Madden

Graduating Class, 1954, School of Veterinary Medicine, University of Missouri



Top row (left to right)—R. E. Baird, B. M. Baker, H. C. Baker, L. B. Blackwell, A. E. Blum, R. D. Brown, W. D. Buzard.

Second row—F. S. David, R. W. Davis, C. W. Diekroeger, G. F. Fischer.

Third row—R. A. Fisher, H. J. Forrest, L. J. Freese, V. D. Goodnight.

Fourth row—W. A. Grieb, J. P. Hickcox, J. W. Hubbard, I. C. Keeney, W. E. Landaker Jr., G. R. Linnerson, F. W. Madden.

Bottom row—C. W. Monsees, C. E. Moore, N. P. Netsch, J. O. Parker, F. T. Swanstone, H. M. Utgard, L. W. Williams.

Charles W. Monsees
Charles E. Moore
Newell P. Netsch
Jack O. Parker

Floyd T. Swanstone
Herbert M. Utgard
Leslie W. Williams

graduates were from seven provinces of Canada and from seven other countries. It is the first class since 1944 in which there were no women graduates.

J. L. Agar
W. E. Austin
D. W. R. Bailey
H. J. Barlow
L. A. J. Beitz
S. R. Bell
H. D. Branton
K. Bruveris

R. S. Butler
T. R. Clacken
R. E. Clapp
R. E. Clarke
R. E. Coleman
T. L. Dales
T. R. DeGeer
J. M. Dugan

Ontario Veterinary College.—At the 1954 commencement exercises of the Ontario Veterinary College, University of Toronto, the following 74 candidates were presented for the D.V.M. degree.

This is the first class to take the five-year course at the Ontario Veterinary College. The

(Continued on page 103)

Graduating Class, 1954, Ontario Veterinary College, University of Toronto



Top row (left to right)—J. L. Agar, W. E. Austin, D. W. R. Bailey, H. J. Barlow, L. A. J. Beitz, S. R. Bell, H. D. Branton, K. Bruveris, R. S. Butler, T. R. Clacken, R. E. Clapp.

Second row—R. E. Clarke, R. E. Coleman, T. L. Dales, T. R. DeGeer, J. M. Dugan, C. D. Fawcett, D. M. Fowler, M. Frankel, C. M. Fraser, W. A. Freeman, J. S. A. Gilray, C. A. Grant.

Third row—W. C. Gray, M. A. Gross, K. B. Harrison, J. T. Heatherington, L. B. Helwig, R. V. Hemsley, R. M. Holiczek, T. J. Hulland, D. W. Humphreys, W. J. Karn, V. B. Kjernisted.

Fourth row—K. R. E. Lachapelle, T. J. Lockridge, F. C. A. Mansbridge, E. Maslak, J. Masterton, T. K. Maybee, W. Medway, M. S. Mills, D. P. Moneo, R. S. Moore, D. W. MacDonald, K. R. Macdonald.

Fifth row—H. B. McCutcheon, J. E. McGowan, J. H. McLean, G. A. Lawson, H. C. Struthers, Dr. A. H. Kennedy, H. R. Somerville, J. R. Logan, J. T. S. Phillips, J. G. Pocrnich, R. F. Rhody.

Sixth row—D. Rodyniuk, J. R. Saunders, H. A. Smith, K. J. M. Smith.

Seventh row—W. T. Steele, R. S. Terceira, W. J. Thompson, E. R. Thomsen, J. D. Thomson, B. W. Tonken.

Eighth row—C. Trylich, D. K. Urquhart, L. G. Villa, J. E. H. Wait, J. R. M. Williams, D. A. Willitts, B. S. F. Wilson, J. M. Winmill.

Graduating Class, 1954, School of Veterinary Medicine, Washington State College



Top row (left to right)—Thomas Baldwin, James Blaine, George Bell, James Brogger, Duane Brobst, Marshall Burrell, Douglas Butchart.

Second row—Hugh Butler, Budd Coons, Dale Dahlquist, Charles Dake, Donald Eastly, LeRoy Gallagher, Arnold Glarborg.

Third row—John Harms, Glenn Hilliard, Alonzo Howard, Philip Irwin, James Jackson, Duane Jones, Robert King.

Fourth row—Willis Kinnaman, Charles Lamb, Patricia Miller, Ann Lindeke, Frank Lindeke, Robert Lott, Clyde Lund.

Fifth row—Andrew Moe, Duane Morgan, William Murphy, Thomas Newland, Ronald Persing, Charles Puddy, Jack Robinette.

Sixth row—Donald Sather, Barbara Sayre, Roy Schonberg, James Sloan, Robert Solee, Joseph Tugaw, David Urie.

Seventh row—Richard West, Robert Whitaker, S. LeRoy Whitener, Cyrenius Wilson, Ronald Yedloutschnig.

(Continued from page 101)

C. D. Fawcett
D. M. Fowler
M. Frankel
C. M. Fraser
W. A. Freeman
J. S. A. Gilray
C. A. Grant
W. C. Gray
M. A. Gross
K. B. Harrison
J. T. Heatherington
L. B. Helwig
R. V. Hemsley
R. M. Holiczek
T. J. Hulland
D. W. Humphreys
W. J. Karn
V. B. Kjernisted
K. R. E. Lachapelle
G. A. Lawson
T. J. Lockridge
J. R. Logan
F. C. A. Mansbridge
E. Maslak
J. Masterton
T. K. Maybee
W. Medway
M. S. Mills
D. P. Monoe

R. S. Moore
D. W. MacDonald
K. R. Macdonald
H. B. McCutcheon
J. E. McGowan
J. H. McLean
J. T. S. Phillips
J. G. Pocrnich
R. F. Rhody
D. Rodyniuk
J. R. Saunders
H. A. Smith
K. J. M. Smith
H. R. Somerville
W. T. Steele
H. C. Struthers
R. S. Terceira
W. J. Thompson
E. R. Thomsen
J. D. Thomson
B. W. Tonken
C. Trylich
D. K. Urquhart
L. G. Villa
J. E. H. Wait
J. R. M. Williams
D. A. Willits
B. S. F. Wilson
J. M. Winmill

State College of Washington.—At the 1954 commencement exercises of the School of Veterinary Medicine, State College of Washington, on May 30, the following 47 candidates were presented for the D.V.M. degree.

Thomas Baldwin
George Bell
James Blaine
Duane Brobst
James Brogger
Marshall Burrell
Douglas Butcharr
Hugh Butler
Budd Coons
Dale Dahlquist
Charles Dake
Donald Eastly
LeRoy Gallagher
Arnold Glarborg
John Harms
Glenn Hilliard
Alonzo Howard
Philip Irwin
James Jackson
Duane Jones
Robert King
Willis Kinnaman
Charles Lamb
Patricia Miller

Ann Lindeke
Frank Lindeke
Robert Lott
Clyde Lund
Andrew Moe
Duane Morgan
William Murphy
Thomas Newland
Ronald Persing
Charles Puddy
Jack Robinette
Donald Sather
Barbara Sayre
Roy Schonberg
James Sloan
Robert Solec
Joseph Tugaw
David Urie
Richard West
Robert Whitaker
S. LeRoy Whitener
Cyrenius Wilson
Ronald Yedloutschnig

AMONG THE STATES AND PROVINCES

California

State Association.—The sixty-sixth annual convention of the California State Veterinary Medical Association was held June 21-23 at the U. S. Grant Hotel in San Diego, with an attendance of more than 400 veterinarians.

Out-of-state speakers who addressed the group were **Drs. H. C. Smith**, Sioux City, Iowa; **Paul Pattridge**, Golden, Colo.; **C. Edward Hofmann**, Tulsa, Okla.; **B. T. Simms**, Washington,

D. C.; and **W. W. Armistead**, College Station, Texas.

Dr. A. M. McCapes, San Luis Obispo, was program chairman.

s/CHARLES S. TRAVERS, *Executive Secretary*.

Central California Association.—On April 28, the Central California Veterinary Medical Association met at the Hotel Californian in Fresno.

After the business meeting, **Mr. Herbert W. Harrington**, an attorney in Fresno, discussed courtroom behavior and legal aspects involving the veterinary profession. **Dr. T. B. Eville** presented two films, "Canine Clinical Cases" and "Cataract Surgery in the Dog."

s/PAUL A. CARLSON, *Secretary*.

Colorado

Veterinarians Play Host to Physicians.—The Northern Colorado Veterinary Medical Society, which includes the faculty of the School of Veterinary Medicine, Colorado A. & M. College, Fort Collins, adopted as a project this year a policy of establishing a closer relationship with the regional medical societies.

On March 3, 1954, the Larimer County Medical Society, Weld County Medical Society, and the Weld County Veterinary Medical Society were invited to a special program in which techniques for handling different animal problems were demonstrated. A tour of the veterinary hospital at the College was conducted and several operations were demonstrated, including open reduction and intramedullary pinning of a



Dr. H. P. Scott, large animal practitioner at the School of Veterinary Medicine, Colorado A. & M. College, demonstrating passing a stomach tube in a cow.

fractured femur in a dog, rumenotomy in a cow for traumatic reticulitis, epidural anesthesia in a cow, semen collection, artificial insemination of a cow, and restraint of a horse with a skeletal muscular relaxant.

Dr. H. J. Hill, of the faculty, acted as spokes-

man for the meeting which was attended by approximately 95 physicians and veterinarians.

Following this meeting, the Larimer County Medical Society asked for another presentation of the program at a later date. On April 27, a similar demonstration was held for the annual meeting of the medical society with approximately 50 consulting medical specialists present from Denver and from the University of Colorado Medical School at Boulder.

The guests expressed enthusiastic interest in many of the veterinary problems, and the Northern Colorado Veterinary Medical Society feels that a contribution has been made toward a closer association of the two professions in the fight against disease.

The officers of the Society, all of Fort Collins, are Drs. H. J. Hill, president; O. R. Adams, president-elect; and William D. Carlson, secretary-treasurer.

District of Columbia

Dr. Lee Honored.—Dr. Aubrey M. Lee (KSC '22) of the Agricultural Research Service, U.S.D.A., recently received a superior service award at a public ceremony "for coordinating an important and difficult research project resulting in solving the problem of x disease, or hyperkeratosis, of cattle, a disease of great economic importance, thereby saving several millions of dollars annually for the livestock industry."

Georgia

Atlanta Society.—On April 6, the president of the Atlanta Humane Society addressed members of the Atlanta Veterinary Society. A short business meeting followed the scientific session.

The May 11 meeting was given to a discussion of the American Animal Hospital Association meeting. A round-table discussion concerning the progress in the field of small animal medicine was enjoyed by all.

S/C. L. BROMLEY, JR., *Secretary.*

Idaho

State Association.—The annual summer meeting of the Idaho Veterinary Medical Association was held June 21-22 at Twin Falls.

Guest speakers who presented papers during the scientific session were: **Drs. W. E. Cameron**, Nampa; **L. D. Thornburg**, Burley; **George Mather**, University of Minnesota, St. Paul; **V. D. Stauffer**, Arvada, Colo.; **V. W. Gesellchen**, Corn States Serum Co., Omaha, Neb.; **L. V. Ruebel**, Jerome; **J. G. Hayden**, Pocatello; **A. P. Schneider**, director, Bureau of Animal Industry, Boise; **F. F. Fischer**, veterinarian in charge, Agricultural Research Service, Boise; and **Mr. A. F. Nelson**, chairman, City Council, Twin Falls.

The Association's annual banquet was held at

the Turf Club in Twin Falls, with **Dr. L. V. Ruebel** as toastmaster.

S/A. P. SCHNEIDER, *Director,*
Bureau of Animal Industry.

Illinois

Eastern Association.—The second annual clinic of the Eastern Illinois Veterinary Medical Association was held May 20 at the University of Illinois veterinary clinic. The following speakers participated in the program: **Drs. H. J. Hardenbrook**, Champaign; **R. E. Witter**, Urbana; **R. A. Grant**, Bradford; **T. H. Brasmer**, Danville; **L. E. Hanson**, Champaign; **R. W. Abell**, Chrisman; **A. H. Gaffin**, Clinton; **D. Maksic**, H. S. Bryan, Urbana; **E. E. Lutz**, Champaign; **L. R. Bain**, Urbana; and **P. B. Meerdink**, LeRoy.

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Dr. Alberts to Head Department of Veterinary Pathology and Hygiene.—Dr. J. O. Alberts has been appointed head of the Department of Veterinary Pathology and Hygiene at the University of Illinois College of Veterinary Medicine to replace Dean Robert Graham, who had headed the Department, in addition to his duties as Dean of the College, since its establishment in 1941.

Dr. Alberts received his V.M.D. degree from the University of Pennsylvania and later received his Ph.D. degree from the University of Illinois in 1948. He joined the University teaching staff in 1944 as assistant professor of veterinary bacteriology, was promoted to associate professor in 1948, and full professor in 1951.

Dr. Alberts is a member of the AVMA Committee on Poultry, the Committee on Animal Disease Control of the Illinois Veterinary Medical Association, the Technical Committee on Poultry Diseases of the North Central Region, and the Conference of Research Workers in Animal Diseases in North America.

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Mississippi Valley Association.—On June 27, the Mississippi Valley Veterinary Medical Association held its annual picnic at the Soangatah Country Club in Galesburg. The annual business meeting and program will be held in the Père Marquette Hotel in Peoria on October 27-28.

S/WILLIAM L. BEER, *Secretary.*

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Personal.—Dr. Morris Erdheim (COR '39), formerly in large animal practice at Grayslake, Ill., recently joined the staff of Dawe's Laboratories, Inc., Chicago.

Indiana

Purdue University May Have Veterinary School.—A school of veterinary medicine at Purdue University has been favorably reported

by a special commission set up by the 1953 General Assembly of Indiana. If authorized by the 1955 legislature, it is expected to require the appropriation of \$5 million plus an operating cost of \$400,000 annually.

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Ninth District Association.—The Ninth District (Ind.) Veterinary Medical Association met in Bedford on May 21, 1954. **Dr. D. C. Wood**, of Greensburg, spoke on sterility in cattle. His talk was followed by a very interesting discussion of this subject.

The women were entertained by Mrs. L. A. Clark of Bedford. The hosts were Dr. and Mrs. L. A. Clark.

s/J. L. KIXMILLER, *Resident Secretary*.

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Northeastern Association.—On May 11, the Northeastern Indiana Veterinary Medical Association met in Columbia City to hear **Dr. George W. Gillie** of Fort Wayne discuss his trip to Europe, following the AVMA meeting in Toronto last year.

The hosts were Dr. and Mrs. Waterfall.

s/J. L. KIXMILLER, *Resident Secretary*.

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Tenth District.—**Dr. Robert Davies**, M.D., addressed the April 18 meeting of the Tenth District (Ind.) Veterinary Medical Association. He spoke on nerve gas which acts as a systemic poison, lung irritant, and causes lacrimation.

Dr. and Mrs. H. Meade Hamilton and Dr. and Mrs. R. H. Goodale of Muncie were hosts.

On May 20, 1954, members of the Association met in Morristown to hear **Drs. J. L. Davidson** and **N. D. Connor**, of the Upjohn Company in Kalamazoo, Mich., discuss sterility in cattle.

The women were entertained by Mrs. R. W. Jones of Morristown, who displayed her collection of dolls in period costumes. The hosts were Dr. and Mrs. O. B. Curry and Dr. and Mrs. Robert Barlow.

s/J. L. KIXMILLER, *Resident Secretary*.

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Wabash Valley Association.—The Wabash Valley Veterinary Medical Association held a meeting on April 21 in Peru. **Dr. V. W. Gesellchen**, of Corn States Laboratories, spoke on new disease conditions in swine.

Dr. and Mrs. B. F. Klotz of Peru were hosts.

s/J. L. KIXMILLER, *Resident Secretary*.

Iowa

North Central Association.—On April 15, the North Central Iowa Veterinary Medical Association held its annual meeting at the Hotel Warden in Fort Dodge, with 111 in attendance.

The following speakers addressed the group during the scientific sessions: **Drs. W. J. Kilpatrick**, Mediapolis; **R. L. West, Jr.**, Waseca, Minn.; **J. H. Krichel**, Keokuk; **H. U. Garrett**,

Des Moines; and **C. W. Brown**, Des Moines.

The following officers were elected for the ensuing year: **Drs. E. R. Henning**, Breda, president; **R. N. Brenny**, Pocahontas, president-elect; and **H. J. Engelbrecht**, Fort Dodge, secretary-treasurer. Members of the executive board are **Drs. R. H. Ahrens**, Jewell; **Wayne Emerson**, Eagle Grove; and **John Morton**, Webster City.

s/B. J. GRAY, *Secretary*.

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Eastern Iowa Clinic.—More than 200 veterinarians from Iowa and surrounding states attended the twentieth annual all-day practitioner's clinic at Hawkeye Downs in Cedar Rapids on May 11. This clinic is sponsored by the Eastern Iowa Veterinary Medical Association. The morning session included diagnostic discussions on diseases of swine and poultry by **Drs. William Lynch**, Cedar Rapids; **R. M. Hofferd**, Cedar Rapids; **C. K. Pfaff**, Fort Dodge; **F. J. Crow**, Iowa City; **C. D. Lee** and **Paul C. Bennett**, both of Ames.

Committee members and operators in the large animal diagnostic session in the afternoon were **Drs. Iva Dunn**, Atkins; **M. J. Johnson**, B. W. Kingrey, and **John B. Herrick**, all of Iowa State College, Ames.

Those participating in the session on surgery and restraint were **Drs. Darrell White**, Williamsburg; **Herbert Marsh**, Princeton, Ill.; **W. L. Andrews**, Milton; **Harry D. McCreedy**, Ottumwa; **Tom Bowstead**, DeWitt; **Earl Wahl**, Anamosa; **Harold Henderson**, Reinbeck; **Donald Buchanan**, Grundy Center; **Merrill Vanderloo**, Dubuque; and **Merrill Frevert**, West Union. Other program participants were **Drs. Richard Stamy**, Norway; **J. M. Haggard**, Delphi, Ind.; **LeRoy Pierce**, Cedar Rapids; and **W. L. Stroup**, Corinth.

Kansas

Veterinary Profession Represented at Pharmaceutical Meeting.—On March 22, the veterinary profession of Kansas was recognized at the luncheon panel discussion of the Kansas Pharmaceutical Association. The occasion was the seventy-fifth annual convention—the diamond jubilee of K.P.A.

The following veterinarians represented the Kansas Veterinary Medical Association: President **Frank W. Jordan**, Dean **E. E. Leasure**, Trustee **Fred B. Ogilvie**, and Secretary-Treasurer **K. Maynard Curtis**.

Along with the presidents of the Kansas Medical Society and the Kansas State Dental Association, Dr. Jordan was asked to make a short talk on the relations of veterinary medicine and the pharmacist.

s/K. M. CURTS, *Resident Secretary*.

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Southeast District Association.—The Southeast District of the Kansas Veterinary Medical

Association met April 16 in the Hotel Besse in Pittsburg, Kan. Dr. W. N. Larson acted as chairman for the meeting.

Dr. Carson C. Moore, Springfield, Mo., discussed various general practice pointers; and **Dr. Richard B. Koger**, Joplin, Mo., showed his own films on routine surgery in a small animal hospital, discussing the various procedures as they appeared on the screen.

Following the meeting, all enjoyed the excellent smorgasbord dinner.

Hosts for the occasion were Dr. and Mrs. W. N. Larson of Pittsburg and Dr. and Mrs. R. A. Cain of Columbus.

s/K. M. CURTS, *Resident Secretary*.

Kentucky

Personal.—Dr. and Mrs. Arthur J. Knilians and granddaughter, Janie, of Janesville, Wis., having spent the winter in Florida, stopped in Louisville on their return home for a visit with Mr. Samuel R. Guard, a former teacher at the Chicago Veterinary College and now editor of *Breeder's Gazette*, and Dr. T. J. Stearns, Louisville, a former classmate, and Dr. Frank H. Riester of Churchill Downs, Ind.

Maine

State Association.—The Maine Veterinary Medical Association met at the Penobscot Country Club, Orono, on April 14, 1954, for the spring meeting. **Dr. Raymond B. Larcom**, president, presided. The meeting consisted of a business session and committee appointments and reports. Five new members were received into the Association.

The social portion of the program consisted of a banquet and entertainment by the Modern Dance Club, University of Maine, and later a movie on wildlife.

Two interesting talks were given by **Mr. Donald Hopkins**, Greenfield, N. H., and **Dr. D. M. Chamberlain**, Bar Harbor.

s/H. L. CHUTE, *Resident Secretary*.

Massachusetts

State Association.—The regular monthly meeting of the Massachusetts Veterinary Association was held May 26 in the Paige Laboratory of the University of Massachusetts at Amherst.

The following speakers, all of Amherst, appeared on the program: **Drs. R. E. Smith, W. K. Harris, G. H. Snoeyenbos**, and **K. L. Bullis**, and **Mr. J. Murray Elliot**.

s/C. LAWRENCE BLAKELY, *Secretary*.

Michigan

Southeastern Association.—On April 28, the Southeastern Michigan Veterinary Medical Association met at the Croatian Center in Detroit. The following speakers addressed the group:

Drs. J. W. Eastman, Rochester; **W. K. McKersie**, Detroit; and **H. G. Nurse**, Ingersoll, Ont.

On May 26, the group met at the Croatian Center. The program consisted of a discussion on the practice act and rabies control and a motion picture on neurological disorders.

s/GILBERT MEYER, *Secretary*.

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Detroit Department of Health Wants Veterinarians.—An announcement from the Civil Service Commission of Detroit states that several vacancies exist in the positions of veterinarian and senior veterinarian with salaries from \$4,441 to \$4,873 per year for the former and from \$5,231 to \$5,774 for the latter. Residence rules have been waived. Examinations are given any time and full information and application blanks may be obtained by writing to the Civil Service Commission, 15th Floor, Water Board Building, 735 Randolph St., Detroit 26, Mich. The work to be performed is primarily meat inspection.

Minnesota

Southwest Society.—On April 24, 1954, the Southwest Minnesota Veterinary Society met in Windom.

The following speakers addressed the group: **Drs. C. M. Stowe** and **George W. Mather**, St. Paul; **J. P. Arnold**, White Bear Lake; and **O. W. Whitcomb**, Ames, Iowa.

s/HENRY J. GRIFFITHS, *Resident Secretary*.

Missouri

Kansas City Association.—The Kansas City Veterinary Medical Association met in the Live-stock Exchange Building in Kansas City, Mo., on May 18, to hear **Dr. Paul Gambrel**, Winnebago, Ill., discuss practical management for the control of mastitis in dairy herds.

s/J. C. DAVIS, *Secretary*.

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Seniors Visit Ralston Purina Research Farm.—In April, 29 senior veterinary students, accompanied by Dr. W. P. Blake of the School's clinical staff and **Drs. W. C. Schofield** and **R. W. Winterfield** of Purina's animal pathology division, visited the Ralston Purina research farm at Gray Summit. In addition to a tour of the farm, they heard discussions on sound management and good feeding principles as they relate to animal health.

New York

American Animal Hospital Association.—The twenty-first annual meeting of the American Animal Hospital Association was held May 5-8 in the Hotel Statler, New York City.

The following guest speakers participated in the program: **Drs. F. T. Candlin**, Denver, Colo.:

Mr. J. R. Carlin, Tracerlab Corp., Boston, Mass.; **Mr. C. T. Finn**, attorney, New York City; **Mr. Warren Holm**, Radium Chemical Co., New York City; **Mr. W. O. Hooker**, Poloroid Corp., Cambridge, Mass.; **Mr. Granville B. Jacobs**, General Foods, Inc., New York City; **Drs. Leonard Krawitz**, Philadelphia; **James A. McCallam**, Washington, D. C., president, AVMA; **John R. McCoy**, cancer research, Rutgers University, New Brunswick, N. J.; **Mr. John C. Neff**, executive vice-president, American Kennel Club, New York City; **Mr. James U. Norris**, hospital management consultant, New York City; **Dr. James E. Purnell** (M.D.), New York Eye and Ear Hospital, New York City; and **Mr. J. A. Reynolds**, Picker X-Ray Corp., White Plains.

The following members also presented papers on the scientific session: **Drs. Lester R. Barto**, Basking Ridge, N. J.; **Charles E. Bild**, Miami, Fla.; **Charles W. Bower**, Topeka, Kan.; **Earl J. Catcott**, Columbus, Ohio; **Louis A. Corwin**, Jamaica; **Thomas W. Craver**, Youngstown, Ohio; **J. Stuart Crawford**, New Hyde Park; **J. Raymond Currey**, Washington, D.C.; **Joseph B. Engle**, Summit, N. J.; **Lester E. Fisher**, Berwyn, Ill.; **Ivan C. Frederickson**, Hollywood, Fla.; **William C. Glenney**, Ardmore, Pa.; **Laurence W. Goodman**, Manhasset; **Stanwood W. Haigler**, St. Louis, Mo.; **William F. Irwin**, Tulsa, Okla.; **Harlan E. Jensen**, Cleveland, Ohio; **Thomas C. Jones**, Washington, D. C.; **Robert P. Knowles**, Miami, Fla.; **Ellis Leonard**, Ithaca; **William G. Magrane**, Mishawaka, Ind.; **Frank E. McClelland** and **Robert B. McClelland**, Buffalo; **Joseph A. S. Millar**, Deal, N. J.; **Mark L. Morris**, Topeka, Kan.; **Bennett J. Porter**, Minneapolis, Minn.; **Hadley C. Stephenson**, Ithaca; **Otto Stader**, Ardmore, Pa.; **Myron A. Thom**, Pasadena, Calif.; and **C. P. Zepp, Sr.**, New York City.

S/WAYNE H. RISER, *Executive Secretary*.

New York City Association.—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held the evening of May 12, 1954, at the New York Academy of Sciences. **Drs. James B. Allison**, Rutgers University, New Brunswick, N. J., and **Mark L. Morris**, Hill Packing Company, Topeka, Kan., were the guest speakers.

At the meeting on June 2, 1954, the guest speaker, **Dr. Victor Cabasso**, Virus and Rickettsia Section, Lederle Laboratories, Pearl River, discussed virus diseases of the dog, with illustrations.

The following served on the program committee: **Drs. R. L. Burkhart**, **J. R. McCoy**, **S. G. Penny**, and **I. Zimmerman**.

S/C. E. DECAMP, *Secretary*.

ROTC Awards Presented to Veterinary Students.—On the occasion of the formal an-

nual inspection of the ROTC units at Cornell University on May 20, 1954, senior veterinary students, **Robert W. Dellers**, **Henry C. Marsh**, and **James P. Childress**, received awards in recognition of their outstanding achievements in the veterinary ROTC program during the four years of their enrollment.

S/CHARLES E. FANSLAU, *Resident Secretary*.

More Gaines Aid for Cornell Research.—The Cornell University's Veterinary Virus Research Institute at Ithaca has received from the Gaines Dog Research Center another \$15,000 for continued research on infectious canine diseases, bringing the latter's contribution to \$45,000 per year. The Center's original grant provided the special kennels for raising dogs free of disease; the new gift will support that unit. The disease-free dogs provide information about the behavior of viruses in nature and the establishment of immunity.

Ohio

Omega Tau Sigma Annual Recognition Banquet.—The annual recognition banquet of Omega Tau Sigma fraternity was held at the Beechwood restaurant on April 11. The new initiates were recognized and the annual presentation of the Gamma Awards was made to veterinarians considered outstanding in their field for the past year.

The recipients of the Gamma Awards were: **Dr. R. L. McClarren**, Columbus, Alumni



The winners of the Gamma Awards are (left to right) **Drs. R. L. McClarren**, **J. D. Grossman**, **Tom Gigliotti**, and **Bill Roenigk**.

Award; Dr. J. D. Grossman, College of Veterinary Medicine, Ohio State University, National Award; and student awards to **Tom Gigliotti** and **Bill Roenigk**, seniors at the School of Veterinary Medicine, Ohio State University.

S/QUENTIN L. QUESTEL,

Dr. Guard Honored.—Dr. W. F. Guard (OSU '12) was recently awarded a certificate of appreciation by the Board of Health of Upper Arlington, "for his many hours of extra-curricular activities devoted to the betterment of health conditions." He had temporarily resigned from the Board to demonstrate the important phases of an effective community food inspection service. The office of health commissioner now has been given to a veterinarian, Dr. C. D. Diesem (OSU '43) who also lives in that community.

Oklahoma

Conference for Veterinarians.—The Oklahoma conference for veterinarians was held May 2-4 at the School of Veterinary Medicine, Oklahoma A. & M. College, in Stillwater.

The following guest speakers appeared on the program: **Drs. R. J. Beamer**, School of Veterinary Medicine, Texas A. & M. College, College Station; **E. E. Bunn**, Sharp & Dohme, West Point, Pa.; **B. M. Carnes**, Muskogee; **C. M. Cooper**, Jensen-Salsbery Laboratories, Kansas City, Mo.; **E. F. Ebert**, School of Veterinary Medicine, University of Missouri, Columbia; **L. K. Georg**, Communicable Disease Center, Chamblee, Ga.; and **R. H. Leonard**, Muskogee.

The following members of the staff of the School of Veterinary Medicine, Oklahoma A. & M. College, also assisted in presenting the conference: **Drs. E. L. Blevins**, **W. E. Brock**, **N. R. Cooley**, **A. E. Darlow**, **J. D. Friend**, **L. L. Gee**, **B. L. Glenn**, **E. E. Harnden**, **P. R. Henry**, **R. A. Kainer**, **I. O. Kliewer**, **W. H. Krull**, **A. L. Malle**, **L. E. McDonald**, **C. H. McElroy**, **L. H. Moe**, **C. N. Murphy**, **W. S. Newcomer**, **H. W. Orr**, **C. C. Pearson**, and **D. R. Peterson**.

s/H. W. ORR, Dean.

Ontario

Award Winners at Ontario Veterinary College.—The following awards were presented to veterinary students during the convocation ceremony at the University of Toronto, May 17, 1954:

Andrew Smith Memorial Medal—William Medway, Elie, Man.; **First General Proficiency Prize**—William Medway, Elie, Man.; **Second General Proficiency Prize**—Crawford A. Grant, Toronto, Ont., and Mircea A. Gross, Tel Aviv, Israel; **Charles Duncan McGilvray Award**—Kenneth R. MacDonald, Fairview, Alta.; **Andrew Leslie MacNabb Award**—Ronald V. Hemsley, Acton, Ont.; **Borden Award**—Crawford A. Grant, Toronto, Ont.; **Rosafe Award**—Gordon A. Lawson, Shoal Lake, Man.; **Ayerst Award**—William Medway, Elie, Man.; **Austin Laboratories Award**—Mircea A. Gross, Tel Aviv, Israel; **Morris Packing Company of Hartford, Conn., Award**—Valdimar B. Kjer-

nisted, Oakview, Man.; **Toronto Humane Society Award**—Mircea A. Gross, Tel Aviv, Israel; **W. J. R. Fowler Award**—John S. A. Gilray, Toronto, Ont.; **Holstein-Friesian Award**—John D. Thomson, Brooklin, Ont.; **Ballard Award**—Mircea A. Gross, Tel Aviv, Israel; **Canadian Army Veterinary Corps Award**—Kenneth R. MacDonald, Fairview, Alta.; **AVMA Women's Auxiliary Prize**—Mircea A. Gross, Tel Aviv, Israel; **Gilbert Surgical Supply Company Award**—William Medway, Elie, Man.; **Stevens Companies Award**—Harvey D. Branton, Windsor, Ont.; **Abbott Laboratories Award**—James M. Winmill, Scotsburn, N.S.

Ontario News.—Dr. H. E. Wright, president of the Ontario Veterinary Association, attended the Central Canada Veterinary Association meeting held recently in Ottawa, Ont. He also attended the Western Ontario Veterinary Association meeting held in Woodstock, Ont., at which Dr. C. A. Mitchell, director of the Animal Disease Research Institute, was the guest speaker. His topic, veterinary history, gave his large audience a feeling of pride in reviewing the valuable contribution the veterinary profession has made to human and animal welfare.

s/W. J. RUMNEY, Recording Secretary.

Pennsylvania

Dr. Way Featured in News Story.—Dr. Robert F. Way (UP '44), assistant professor of anatomy at the University of Pennsylvania, was recently featured in the Philadelphia *Sunday Bulletin*. Drawings by Dr. Way of the bone and muscle structure of dogs have appeared in popular dog magazines. His excellent pastels of dogs, horses, and other animals have also been published.

Washington

South Puget Sound Association.—The April meeting of the South Puget Sound Veterinary Medical Association was held at the Steak House in Olympia. Fifty veterinarians convened to hear a discussion by **Dr. R. E. Watts**, of recent developments of Washington State College in treating livestock diseases. **Mr. Vern Vixie**, a representative of the Washington State Medical Association, discussed public relations, and a panel discussion of veterinary public relations was led by **Drs. G. D. Duby** and **D. A. McGill** of Centralia. The women's auxiliary held a separate meeting.

s/JO BROWNE, Corresponding Secretary.

Wisconsin

Northeastern Association.—On April 24, the Northeastern Wisconsin Veterinary Medical Association met in the Marson Hotel in Clintonville.

Through the courtesy of Fort Dodge Laboratories, **Dr. C. A. Trace** presented a motion pic-

ture on hog cholera control. Dr. Trace also presented a paper on mastitis. **Dr. A. H. Craige**, Pitman-Moore Co., spoke on leptospirosis; **Dr. A. M. McDermid**, president of the Wisconsin Veterinary Medical Association, was the dinner speaker.

Approximately 50 veterinarians attended the meeting.

S/WILLIAM MADSON, *Secretary*.

Wyoming

Dr. Pierson Joins Staff of Veterinary School.—Dr. Robert E. Pierson (ISC '43), practitioner at Saratoga for eight years, has leased his practice to Dr. J. T. Ingram. Dr. Pierson will serve as ambulatory clinician at Colorado A. & M. College, School of Veterinary Medicine.

S/J. F. RYFF, *Resident Secretary*.

FOREIGN NEWS

Philippine Islands

Veterinary Alumni Association Organized.—Through the untiring efforts of Dr. Nicolas S. Sevilla, chief, Animal Products Division, Bureau of Animal Industry, P.I., the University of the Philippines Veterinary Alumni Association was organized in a meeting held in Pandacan, Manila, on March 9, 1954. With some slight modifications, the constitution and by-laws drafted by Dr. Felicisimo San Agustin of the Research Division, Bureau of Animal Industry, was approved at that meeting.

The following officers were elected: Dr. Nicolas S. Sevilla, president; Dr. Zacarias de Jesus, head and professor, Department of Veterinary Parasitology and Protozoology, College of Veterinary Medicine, University of the Philippines, vice-president; and Dr. José B. Uichanco, associate professor, Department of Veterinary Pathology and Bacteriology, and secretary of the College of Veterinary Medicine, secretary-treasurer. The following will serve as members of the governing council: Drs. Angel K. Gomez, dean, College of Veterinary Medicine; Manuel D. Sumulong, director, Bureau of Animal Industry; Rufino B. Gapuz, dean, Arana Institute of Agriculture; and Santiago Rotea, chairman, Veterinary Examining Board.

The first regular meeting was made to coincide with the alumni homecoming of the University on April 4. The Veterinary Alumni Association meeting was held at the Assembly hall of the new veterinary building.

S/JOSE B. ARANEZ,
Foreign Corresponding Secretary.

STATE BOARD EXAMINATIONS

West Virginia—The West Virginia Veterinary Board will convene at the Stonewall Jackson Hotel, Clarksburg, W. Va. on Monday, Sept.

13, 1954, for the purpose of giving examinations to those desiring to register to practice veterinary medicine in the State of West Virginia. Application for examination must be in the hands of the undersigned at least ten days prior to the date set for examination. Dr. Isaac H. Maxwell, secretary, West Virginia Veterinary Board, Lost Creek, W. Va.

VETERINARY MILITARY SERVICE

Veterinary Group Conferences.—Brigadier General Jacob L. Hartman, chief of the Army Veterinary Corps, and Col. Curtis W. Betzold, chief of the Meat and Dairy Hygiene Branch, Veterinary Division, Office of the Surgeon General, attended the annual training conference of veterinary officers in Atlanta, Ga., May 24-26.

Colonel Betzold also attended the 5th Army area training conference for veterinary officers in Chicago, May 10-14. Colonel John L. Owens, area veterinary officer, was presiding officer at this conference.

General Hartman was the guest of honor at the annual dinner of the Conestoga Veterinary Medical Association on May 14 at Lancaster, Pa. He was also among the out-of-town officials attending the April 23 session of the Regional Continuing Committee on Rabies Control in New York City under the sponsorship of the New York Joint Legislative Committee on Interstate Cooperation and the Council of State Governments.

BIRTHS

Dr. (ISC '51) and Mrs. Dale Brinkmeyer, New London, Iowa, announce the birth of a son, Dirk Rayner, on April 8, 1954.

Dr. (UP '40) and Mrs. Barney Spielholz, Union, N. J., announce the birth of a daughter, Elissa Gay, on May 5, 1954.

Dr. (MSC '44) and Mrs. Robert J. Flynn, Park Forest, Ill., announce the birth of a daughter, Nancy Jean, on May 10, 1954. Dr. and Mrs. Flynn also have a son, Robert, and two daughters, Jean and Susan.

DEATHS

Alfred T. Baezler (NYS '15), 59, Staten Island, N. Y., died recently. Dr. Baezler served as veterinarian for the Richmond Health Department for several years.

Willard L. Boggy (CVC '15), Breese, Ill., died Oct. 14, 1953. Dr. Boggy was a general practitioner and also served as veterinarian for the St. Louis National Stockyards Co.

★**Harold J. Bunde** (OVC '39), 38, Evansville, Wis., died April 15, 1954, as the result of an automobile accident. Dr. Bunde was a general

practitioner. He was a member of the Wisconsin Veterinary Medical Association and of the AVMA.

Howard L. Deuell (KCV '10), 69, Peoria Heights, Ill., died Feb. 3, 1954. Dr. Deuell, in addition to operating his animal hospital, also managed the Illinois Veterinary Supply Company prior to his retirement five years ago.

★**Peter T. Engard** (IND '13), 67, Marysville, Ohio, died Oct. 7, 1953. Dr. Engard was a member of the Ohio State Veterinary Medical Association and of the AVMA.

Robert O. Feeley (NYA '06), 70, Clemson, S. Car., died April 30, 1954. Dr. Feeley, for forty-six years a resident of Clemson, had served as head of the Department of Veterinary Science, Clemson Agricultural College. He is survived by his widow and three daughters. Dr. Feeley had been a member of the AVMA.

★**Earl Ferree** (IND '14), 68, Brownsburg, Ind., died May 5, 1954. Dr. Ferree retired some years ago due to a heart condition, but he continued to manage his farm. He was admitted to the AVMA in 1939.

Thomas R. Cairns (CVC '09), 70, Decatur, Ill., died Feb. 2, 1954. Dr. Cairns was employed as a meat inspector by the U. S. Bureau of Animal Industry until his retirement about ten years ago.

J. B. Gifford (USC '12), 73, Martinsburg, Pa., died Feb. 23, 1954. Dr. Gifford was a general practitioner.

★**William L. Hatcher** (COL '33), 44, Raton, N. M., died April 16, 1954. Dr. Hatcher was a livestock inspector for the U. S. Agricultural Research Service at the time of his death. He was a member of the New Mexico Veterinary Medical Association and of the AVMA.

R. W. Heckert (CVC '12), Hartington, Neb., died Aug. 29, 1953.

Ora K. Hoffman (MCK '20), 66, Hagerstown, Md., died Jan. 14, 1953. Dr. Hoffman had been a member of the AVMA for many years.

Robert E. Leu (CVC '02), 79, Mascoutah, Ill., died Feb. 8, 1954. Dr. Leu had practiced in Mascoutah for more than fifty years.

Everett P. Maitland (CVC '10), La Plata, Mo., died March 25, 1954. Dr. Maitland had been employed by the Missouri Bureau of Animal Industry until his retirement in 1953.

Edward A. Malloy (MCK '10), 81, Chicago, Ill., died on Feb. 9, 1954. Dr. Malloy, a small animal practitioner, had retired some years ago.

★**William M. Mohler** (IND '23), 55, Washington, D. C., son of the late Dr. John R. Mohler, died suddenly from a coronary attack on June 9, 1954. A more extended obituary will appear in the August JOURNAL.

★**F. Y. S. Moore** (ONT '08), 69, McAlester, Okla., died May 21, 1954. Dr. Moore was born in Ireland and attended the Royal Veterinary College of Ireland before entering the Ontario

Veterinary College. He was admitted to the AVMA in 1917. Dr. Moore is survived by two brothers and two sisters.

Don R. Nickell (KCV '11), 67, Lewisburg, W. Va., died May 20, 1954. Dr. Nickell had practiced veterinary medicine in Lewisburg for several years and had served as its postmaster since 1933. He is survived by his widow and a son.

Guy A. Ottinger (CVC '16), 70, Jamestown, N. Dak., died Feb. 14, 1954. Dr. Ottinger was a general practitioner. He had been a member of the AVMA.

★**Charles R. Pastors** (OSU '31), 45, Staunton, Va., died May 3, 1954. Dr. Pastors, a general practitioner, was a member of the Virginia Veterinary Medical Association and had served as its president. He also served five years on the Virginia Board of Veterinary Examiners. He was admitted to the AVMA in 1931. Dr. Pastors is survived by his widow and two young children.

Chester A. Ponder (KCV '12), 64, Poplar Bluff, Mo., died Feb. 20, 1954. Dr. Ponder, a veteran of World War I, had practiced in Poplar Bluff for more than thirty years.

Boyce G. Reid (COL '24), Downey, Calif., died July 21, 1953. Dr. Reid was a small animal practitioner.

★**Henry C. Singer** (CVC '05), 75, Pana, Ill., died March 4, 1954. Dr. Singer, a general practitioner, was a member of the Illinois State Veterinary Medical Association and of the AVMA.

Perry L. Stow (ISC '21), Omaha, Neb., died Sept. 10, 1953. Dr. Stow was a general practitioner.

Clark E. Swail (OVC '06), Colebrook, N. H., died Dec. 9, 1953. Dr. Swail was a general practitioner.

James W. Thompson (ONT '95), Loveland, Colo., died in September, 1953. Dr. Thompson was a meat inspector for the state of Colorado.

Rome C. Vermillion (IND '05), 70, Indianapolis, Ind., died May 1, 1954. Dr. Vermillion, who had been with the Bureau of Animal Industry as a stockyards inspector, retired in December, 1953. He had been a member of the AVMA.

Frank E. Wagner (CVC '09), 67, Glidden, Iowa, died in February, 1954, from injuries received in an automobile accident. Dr. Wagner was a general practitioner.

Paul O. Woods (CVC '03), 70, Greenville, Ill., died Feb. 12, 1954. Dr. Woods was Fayette County veterinarian for several years and had practiced for more than forty years in Greenville. He had retired from practice several years ago.

Alan W. Younghusband (ONT '13), 66, Winnipeg, Man., died Feb. 26, 1954. Dr. Younghusband served in the Dominion Department of Agriculture for many years.

★Indicates members of the AVMA.

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COMING MEETINGS

Notices of Coming Meetings must be received by 4th of month preceding date of issue

- Maryland State Veterinary Medical Association.** Annual summer meeting. George Washington Hotel, Ocean City, Md., July 1-2, 1954. John D. Gadd, Cockeysville, Md., secretary.
- Mississippi Veterinary Medical Association.** Annual meeting. Buena Vista Hotel, Biloxi, Miss., July 11-13, 1954. Charles H. Horne, Newton, Miss., secretary.
- Kentucky Veterinary Medical Association.** Annual summer meeting. Seelbach Hotel, Louisville, Ky., July 21-22, 1954. T. J. Stearns, Room 216, Livestock Exchange Bldg., Louisville, Ky., secretary.
- Virginia Veterinary Medical Association.** Annual meeting. Monticello Hotel, Charlottesville, Va., Aug. 8-10, 1954. A. J. Sipos, 1102 State Office Building, Richmond, Va., secretary.
- American Veterinary Medical Association.** Annual meeting. The Olympic Hotel, Seattle, Wash., Aug. 23-26, 1954. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.
- Canadian Veterinary Association and Ontario Veterinary Association.** Annual meeting. Chateau Laurier Hotel, Ottawa, Ont., Aug. 30-Sept. 1, 1954. R. V. L. Walker, Animal Disease Research Institute, Hull, P.Q., chairman local arrangements.
- Ontario Veterinary Association and Canadian Veterinary Association.** Annual meeting. Chateau Laurier Hotel, Ottawa, Ont., Aug. 30-Sept. 1, 1954. R. V. L. Walker, Animal Disease Research Institute, Hull, P.Q., chairman, local arrangements.
- Louisiana Veterinary Medical Association.** Fall meeting. Lake Charles Country Club, Lake Charles, La., Sept. 8-9, 1954. R. B. Lank, Department of Veterinary Science, Louisiana State University, Baton Rouge, La., secretary.
- New Mexico Veterinary Medical Association.** Annual meeting. La Fonda Hotel, Santa Fe, N. M., Sept. 13-14, 1954. Joe M. Miller, Box 149, Alamogordo, N. M., secretary.
- New York State Veterinary Medical Society.** Annual meeting. Saranac Inn, Saranac, N. Y., Sept. 15-17, 1954. Joan S. Halat, Utica, N. Y., acting executive secretary.
- Conference for Veterinarians.** Alabama Polytechnic Institute, Auburn, Ala., Sept. 16-18, 1954. R. S. Sugg, dean, School of Veterinary Medicine, Alabama Polytechnic Institute, Auburn, Ala.
- Northern Illinois Veterinary Medical Association.** Fall meeting. Hotel Faust, Rockford, Ill., Sept. 22, 1954. J. W. Boller, Harvard, Ill., secretary.
- Missouri, University of.** Short course for veterinarians. School of Veterinary Medicine, University of Missouri, Columbia, Mo., Oct. 4-5, 1954. Cecil Elder, chairman.
- Wisconsin, University of.** Postgraduate conference for veterinarians. University of Wisconsin, Madison, Wis., Oct. 7-8, 1954. C. A. Brandly, chairman, Department of Veterinary Science.
- New England Veterinary Medical Association.** Annual meeting. New Ocean House, Swampscott, Mass., Oct. 7-9, 1954. C. Lawrence Blakely, 484 Chestnut St., Needham, Mass.
- Pennsylvania State Veterinary Medical Association.** Annual meeting. Pocono Manor Inn, Pocono Manor, Pa., Oct. 13-15, 1954. R. C. Snyder, Walnut St. and Copley Rd., Upper Darby, Pa., secretary.
- Eastern Iowa Veterinary Association.** Annual meeting. Montrose Hotel, Cedar Rapids, Iowa, Oct. 14-15, 1954. Wayne H. Thompson, Earlville, Iowa, secretary.
- South Dakota Veterinary Medical Association.** Annual meeting. Cataract Hotel, Sioux Falls, S. Dak., Oct. 14-15, 1954. J. L. Noordsy, Marion, S. Dak., secretary.
- Southern Veterinary Medical Association.** Annual meeting. Asheville, N. Car., Oct. 18-20, 1954. A. A. Husman, 320 Agriculture Building, Raleigh, N. Car., secretary.
- Department of Health, Education, and Welfare,** in coöperation with the journal, *Antibiotics and Chemotherapy*. Symposium on Antibiotics. Washington, D. C., Oct. 20-22, 1954. Henry Welch, chairman.
- Illinois, University of.** Annual veterinary conference and short course. College of Veterinary Medicine, University of Illinois, Urbana, Ill., Oct. 21-22, 1954. L. E. Boley, chairman.
- Mississippi Valley Veterinary Medical Association.** Annual meeting. Pere Marquette Hotel, Peoria, Ill., Oct. 27-28, 1954. William L. Beer, 612 N. College Ave., Aledo, Ill., secretary.
- West Virginia Veterinary Medical Association.** Annual meeting. Hotel Morgan, Morgantown, W. Va., Oct. 31-Nov. 1, 1954. Elvin R. Coon, 346 Capitol Building, Charleston 5, W. Va., secretary.
- New York State College of Agriculture at Cornell University.** Annual nutrition conference

(Continued on p. 30)

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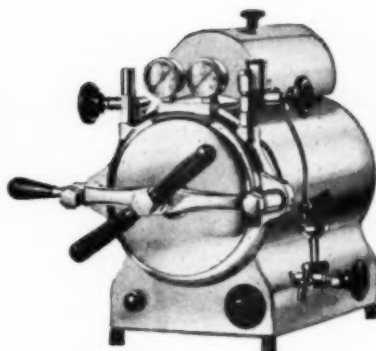
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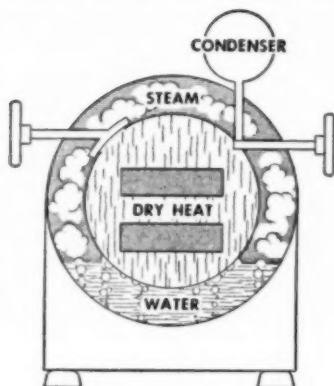
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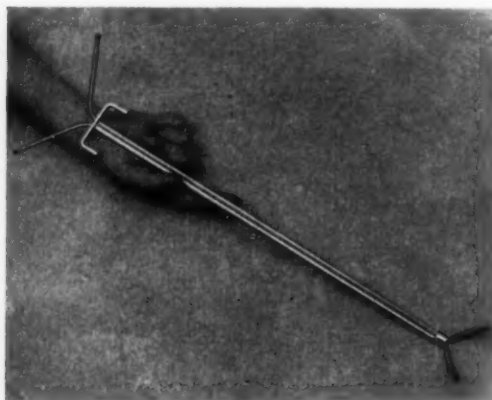
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(COMING MEETINGS—continued from p. 28)

for feed manufacturers. Statler Hotel, Buffalo, N. Y., Nov. 4-5, 1954. M. L. Scott, Rice Hall, Cornell University, Ithaca, N. Y., chairman.

U. S. Livestock Sanitary Association. Annual meeting. Hotel Fontenelle, Omaha, Neb., Nov. 10-12, 1954. R. A. Hendershott, 1 West State Street, Trenton 8, N. J., secretary.

Nebraska State Veterinary Medical Association. Annual meeting. Hotel Cornhusker, Lincoln, Neb., Dec. 1-3, 1954. W. T. Spencer, 1250 North 37th Street, Lincoln, Neb., secretary.

Ohio State Veterinary Medical Association. Annual meeting. Deshler-Hilton Hotel, Columbus, Ohio, Jan. 5-7, 1955. William S. Konold, 50 East Broad Street, Columbus 15, Ohio, executive secretary.

Kansas Veterinary Medical Association. Annual convention. Town House Hotel, Kansas City, Kan., Jan. 6-8, 1955. K. Maynard Curtis, 70 Central Ave., Kansas City 18, Kan., secretary.

Tennessee Veterinary Medical Association. Annual meeting. Knoxville, Tenn., Jan. 9-11, 1955. H. W. Hayes, 734 Broadway, North East, Knoxville, Tenn., secretary.

Foreign Meetings

Pan-African Days for Zootechnology. First meeting. Algiers, Algeria, Oct. 17-23, 1954. R. Camov, 3 Rue Pélissier, Algiers, Algeria, general secretary of the Societe Veterinaire de Zootechnie D'Algerie.

(Continued on p. 32)



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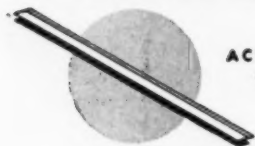
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(COMING MEETINGS—continued from p. 30)

Regularly Scheduled Meetings

Atlanta Veterinary Society, the second Tuesday of every month. C. L. Bromley, Jr., 1634 Northside Drive, Atlanta, Ga., secretary.

Baltimore City Veterinary Medical Association, the second Thursday of each month, September through May (except December), at 9:00 p.m. at the Park Plaza Hotel, Charles and Madison Streets, Baltimore, Md. Victor I. Sorgen, 133 Wiltshire Rd., Baltimore 21, Md., secretary.

Bay Counties Veterinary Medical Association, the second Tuesday of each month. George W. Eberhart, El Cerrito, Calif., secretary.

Cedar Valley Veterinary Association, the second Monday of each month (except July and August) at Black's Tea Room, Waterloo. F. E. Brutsman, Traer, Iowa, secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. Paul A. Carlson, 5556 Bobolink Lane, Fresno, Calif., secretary.

Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel in Greensboro. Dr. J. S. Ellis, 2450 Battleground Ave., Greensboro, N. Car., secretary.

Chicago Veterinary Medical Association, the second Tuesday of each month. Wayne H. Riser, 5335 Touhy Ave., Skokie, Ill., secretary.

Coastal Bend Veterinary Association (Texas), the second Wednesday of each month. J. E. Hoban, 4301 S. Port Ave., Corpus Christi, Texas, secretary.

Coon Valley Veterinary Association, the second Wednesday of each month, September through May, at the Bradford Hotel, Storm Lake, Iowa. J. R. Rosdail, Pomeroy, Iowa, secretary.

Cuyahoga County (Cleveland, Ohio) Veterinary Medical Association, the first Wednesday of each month—September through May (except January)—at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. Roger W. Grundish, 4217 Mayfield Road, South Euclid 21, Ohio, secretary.

East Bay Veterinary Medical Association, bi-monthly, the fourth Wednesday. Robert Clemens, 23352 Orchard, Hayward, Calif., secretary.

Eastern Illinois Veterinary Medical Association, the first Thursday of March, June, September, and December. A one-day clinic is held in May. L. E. St. Clair, College of Veterinary Medicine, University of Illinois, Urbana, Ill., secretary.

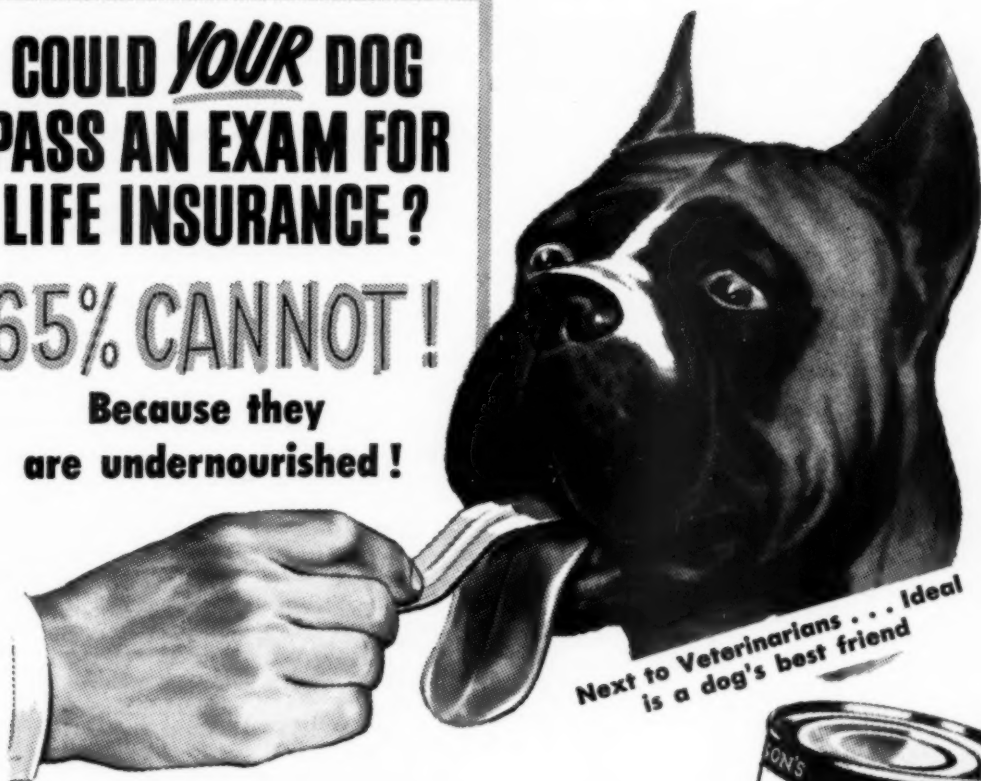
Eastern North Carolina Veterinary Medical Association, the first Friday of each month, time and place specified monthly. C. B. Randall, Kinston, N. Car., secretary.

(Continued on p. 34)

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Fayette County Veterinary Association, Iowa, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Florida, North-East Florida Veterinary Medical Association, the second Thursday of each month, time and place specified monthly. J. O. Whiddon, 829 San Marco Blvd., Jacksonville, Fla.

Greater St. Louis Veterinary Medical Association, the first Friday of the month (except July and August) at the Sheraton Hotel, Spring Ave. and Lindell Blvd. Luther E. Fredrickson, Room 11, Municipal Courts Bldg., St. Louis, Mo., secretary.

Houston Veterinary Medical Association, Houston, Texas, the first Thursday of each month. Edward Lepon, Houston, Texas, secretary-treasurer.

Illinois Valley Veterinary Medical Association, the second Sunday evening of even-numbered months at the Jefferson Hotel, Peoria, Ill. S. M. McCully, Lacon, Ill., secretary.

Indiana Tenth District Veterinary Medical Association, third Thursday of each month. L. A. Snider, New Palestine, Ind., secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of each month in Louisville or within a radius of 50 miles. Dr. W. E. Bewley, P.O. Box "H", Crestwood, Ky., secretary.

Kansas City Small Animal Hospital Association, the first Monday of each month, at the Hotel Continental. J. A. Zacher, 3632 Main St., Kansas City, Mo., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month, at the Exchange Hall, Ninth Floor, Livestock Building, 1600 Genesee, Kansas City, Mo. J. C. Davis, 7332 Canterbury St., Kansas City 13, Mo., secretary.

Kern County Veterinary Medical Association, the first Thursday of each month. R. A. Stiern, 17 Niles St., Bakersfield, Calif., secretary.

Keystone Veterinary Medical Association, the Philadelphia County Medical Society Building, 301 S. 21st Street, Philadelphia, Pa., on the fourth Wednesday of each month. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., secretary.

Kyowva Veterinary Medical Association, the second Thursday of each month in the Hotel Prichard, Huntington, W. Va., at 8:30 p.m. Karl Mayer, 1531 Fourth Ave., Huntington, W. Va., secretary.

Maricopa County Veterinary Association, the second Tuesday of each month. Charles J. Prchal, 1722 East Almeria Road, Phoenix, Ariz., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday evening of each month from September through May, at the Academy of Medicine of Northern New

(Continued on p. 36)

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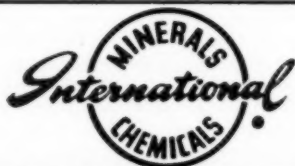
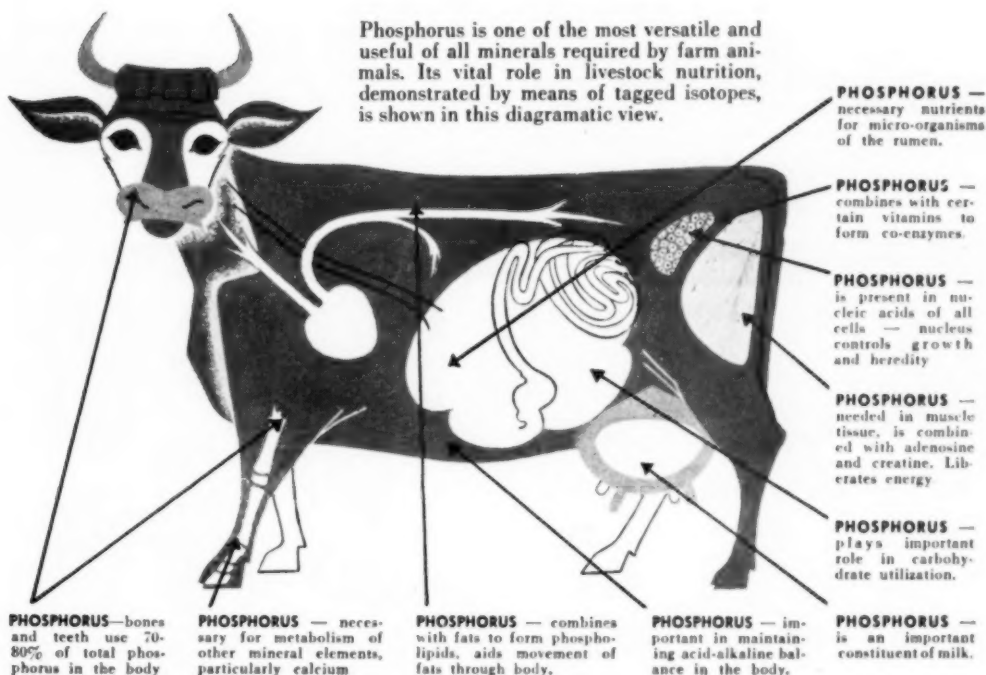
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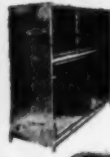


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- Michiana Veterinary Medical Association, the second Thursday of each month, at the Hotel LaSalle, South Bend, Ind. Paul W. Hough, 829 Bryan St., South Bend, Ind., secretary.
- Michigan, Southeastern Veterinary Medical Association, the second Thursday of every month, September through May. Gilbert Meyer, 14003 E. Seven Mile Road, Detroit 5, Mich., secretary.
- Mid-Coast Veterinary Medical Association, the first Thursday of every even month. George McCollister, 2146 Broad St., San Luis Obispo, Calif., secretary.
- Milwaukee Veterinary Medical Association, the third Tuesday of each month, at the Half-Way House, Blue Mound Rd. George F. Lynch, 201 West Devon St., Milwaukee 17, Wis., secretary.
- Mobile-Baldwin Veterinary Medical Association, the first Tuesday of each month at the Hotel Admiral Simmes, Mobile, Ala. C. Eric Kennedy, Mobile, Ala., secretary.
- Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. Lewis J. Campbell, 66 Marion Ave., Salinas, Calif., secretary.
- New Castle County Veterinary Society, the second Wednesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. Harold Roberts, Paper Mill Road, Newark R3, Del., secretary.
- New York City, Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63rd St., New York City. C. E. DeCamp, 43 West 61st St., New York 23, N. Y., secretary.
- Northern Colorado Veterinary Medical Association, the second Monday of each month. William D. Carlson, P.O. Box 478, Fort Collins, Colo., secretary.
- Northern New Jersey Veterinary Association, the fourth Tuesday evening from September through June, at the Casa Mana Restaurant, Cedar Lane, Teaneck, N. J. Robert R. Shomer, 1680 Teaneck Road, N. J., secretary.
- Northern San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month. Tom Hagan, Gen. Del., Escalon, Calif., secretary.
- Oklahoma County Veterinary Medical Association, the second Wednesday of every month except August and July. R. J. Keller, 1701 N. Highland Drive, Oklahoma City, Okla., secretary.
- Orange Belt Veterinary Medical Association,

(Continued on p. 38)

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4901 SO. 33RD STREET, OMAHA, NEBRASKA

Member: Associated Serum Producers, Inc.

(COMING MEETINGS—continued from p. 36)

the second Monday of each month at 7:00 p.m. in the Antlers Hotel, San Bernardino, Calif. William J. Kelber, 1111 West A St., Ontario, Calif., secretary.

Orange County Veterinary Medical Association, bi-monthly. Donald E. Lind, 2643 N. Main, Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. P. H. Hand, Box 1035, Millbrae, Calif., secretary.

Piedmont Veterinary Medical Association, the last Friday of each month at 7:00 p.m. in Mull's Motel in Hickory, N. Car. G. V. McCranie, Hickory, N. Car., secretary.

Pima County (Arizona) Veterinary Medical Association, the third Wednesday of each month, in Tucson. R. W. Adami, 2103 S. 6th Ave., Tucson, Ariz., resident secretary.

Portland (Oregon) Veterinary Medical Association, the second Tuesday of each month, in the Auditorium of the Upjohn Company. Victor T. Oliver, 9705 S.W. Barbur Blvd., Portland 19, Ore., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. H.

(Continued on p. 40)

Sold only to Graduate Veterinarians

FUNGASARC

**for the effective treatment
of skin conditions**

Destroys fungi; sarcoptes scabiei canis; demodex canis; mites; fleas; lice. Repels ticks. Non Staining; not greasy; has no objectionable odor, destroys odors of external origin. Non Toxic; may be used daily in recommended dilution. Concentrated; one gallon makes four.

Gallon

\$13.95

Makes 4 gallons

Quart

\$4.00

Makes a gallon

**Available nationally through
well known Distributors**

Osco Chemical Company, Inc.

P.O. Box 2157, Atlanta 1, Georgia



self feeding

SODIDE

removes roundworms

Mixes palatably with dry feed.

With SODIDE pigs naturally worm themselves. When mixed 2 lbs. Sodide with 100 lbs. dry feed, Sodide can be effectively and easily administered in self-feeder. Feed exclusively for 24 hours, allowing no slop feeds during this time. You save by buying Sodide in the economical 25 lb. pail.

An E-plus Product. Easy to administer, proved effective, and economical. Blended of 50% Fluoride and 25% yeast in a palatable base.

Your Choice of Quantity

1 lb.

12-1 lb.

1-25 lb. pail



SERVING GRADUATE VETERINARIANS EXCLUSIVELY

THE
NATIONAL LABORATORIES
CORPORATION
KANSAS CITY

Liability Insurance

for

AVMA Members

The policy, which was developed especially for Association members two decades ago, provides expert defense against claims and suits arising out of the care and treatment of animals, and will pay, to the extent of the policy limits, all expenses and damages resulting from unfavorable verdicts.

In this suit-conscious age, such protection is not only wise but, as shown by the claim files, a practical necessity.

The insurance is placed with one of the largest and most reliable underwriters in the country.

Write at once for an application and descriptive folder.

American Veterinary

Medical Association

600 So. Michigan Ave., Chicago 5, Ill.

(COMING MEETINGS—continued from p. 38)

M. Strandberg, 203 D St., Petaluma, Calif., secretary.

Sacramento Valley Veterinary Medical Association, the second Wednesday of each month. S. M. Foster, 430 College, Woodland, Calif., secretary.

Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. F. Ferguson, 1702 S. Dort Highway, Flint, Mich., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. Warren J. Dedrick, 904 S. Lemon, El Cajon, Calif., secretary.

San Fernando Valley (California) Veterinary Medical Association, the second Friday night of each month at Eaton's Restaurant in Studio City, Calif. Howard C. Taylor, 2811 W. Olive Ave., Burbank, Calif., secretary.

Santa Barbara-Ventura Counties Veterinary Medical Association, Friday evenings every sixth week. Dee Wodars McDermott, 5879 Hollister, Coleta, Calif., secretary.

Seattle Veterinary Medical Association, the third Monday of each month in the home of Dr. Fred Cummings, 5828-5th, N.W., Seattle, Wash.

Southern California Veterinary Medical Association, the third Wednesday of each month. Rankin W. McIntyre, 203 Administration Building, Union Stockyards, Los Angeles, Calif., secretary.

South Florida Veterinary Society, the third Tuesday of each month, at the Seven Seas Restaurant, Miami, Fla. E. A. Majilton, 1093 N. E. 79th St., Miami, Fla., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month, in Director's Parlor of the Brookside State Bank, Tulsa, Okla. John Carnes, Muskogee, Okla., secretary.

BROKEN TEETH

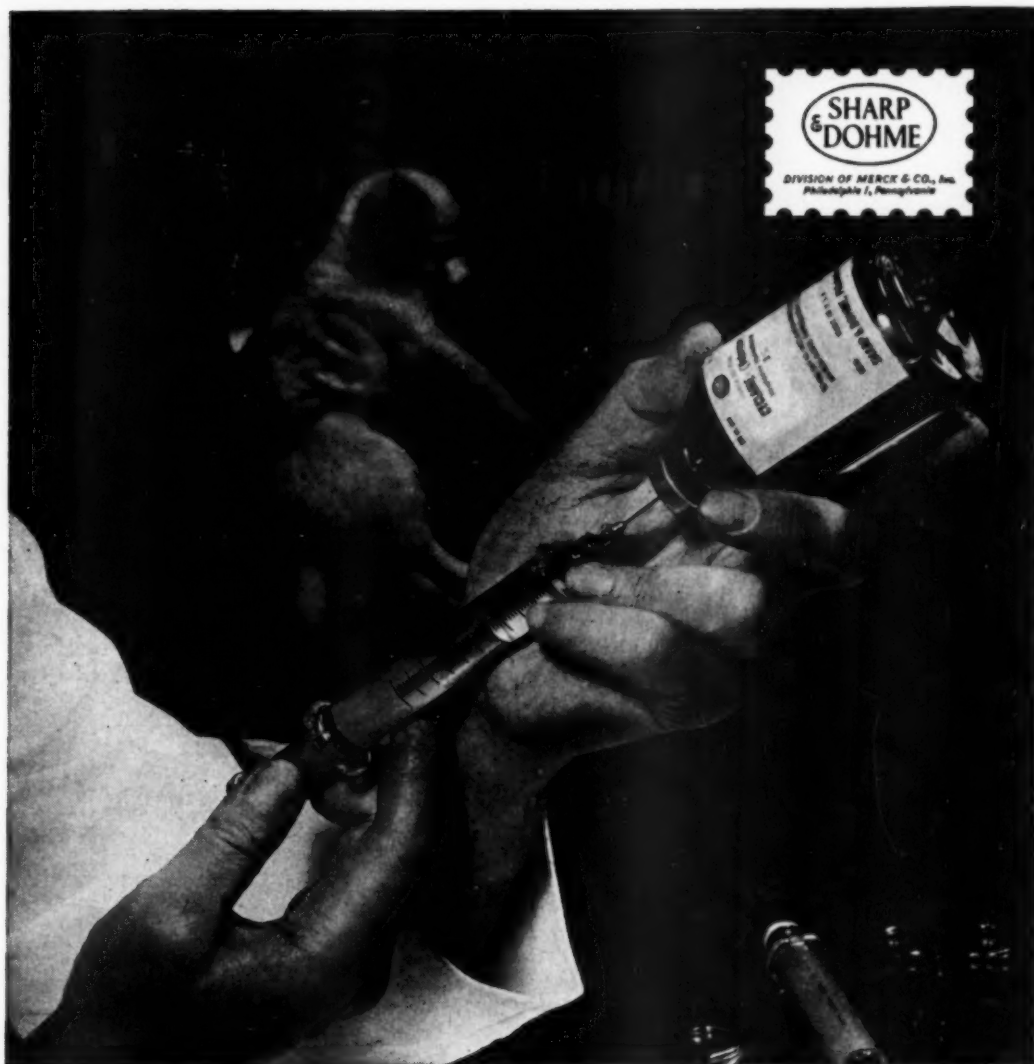
—repaired in bottom clipper blades.
Top and bottom blades sharpened to
match. Save money—Guaranteed.
Prices on Request

HIGHLY SPECIALIZED SHARPENING
Sales—Repairing on Oster
and Stewart clippers.

Sharpened Blades Tested on Rabbit Fur
OSTER \$2.50 STEWART \$1.00
Prompt Service—Est. 17 years

MAIL TO

CLIPPER SERVICE OAK RIDGE
NEW JERSEY



PHOTOGRAPH BY CHARLES KERLER

All-purpose local anesthetic **CYCLAINE®**

VETERINARY • HEXYLCAINE HYDROCHLORIDE

A versatile anesthetic agent with "a low order of toxicity,"¹ CYCLAINE has a wide field of uses including epidural anesthesia, infiltration anesthesia, nerve block and topical applications in the eye.

CYCLAINE acts promptly, producing sensory anesthesia without nerve tissue injury. For epidural use, CYCLAINE has many advantages over other anesthetic agents. "It is longer-lasting (six to twelve-hour duration)...gives good anesthesia

but does not paralyze, so that the animal can stand during anesthesia...[is] quite stable...easy to use and handle."¹

Quick Information: Supplied in 20 cc. vials of 5% Sterile Solution and 100 cc. vials of 1% Sterile Solution. Dosage schedules for a wide variety of anesthetic procedures may be found in package circular.

Sharp & Dohme, Veterinary Department.

Reference: 1. Vet. Med. 48:269 (July) 1953.



The bottle or box was never made that could contain the skill, experience, and judgment of the practicing veterinarian.

You'd never know it, however, to judge from the many pharmaceuticals, antibiotics, and biologicals that are sold "over the counter" for lay use.

What are YOU doing about this problem and its possible effect on your practice?

One thing you can do is to make sure of the sales policies of the supply houses you deal with — and buy from those on YOUR side of the fence. Members of Associated Serum Producers sell their products to *veterinarians* only — and spend their own money in educating the public to rely on the veterinarian. Know the companies from whom you buy. Check the list below.



ASSOCIATED SERUM PRODUCERS, INC.

Sponsors of American Foundation for Animal Health

The National Laboratories Corp.	The Columbus Serum Co.
Norden Laboratories	Corn Belt Laboratories, Inc.
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Sioux City Serum Co.	Fort Dodge Laboratories, Inc.
Sioux Falls Serum Co.	Grain Belt Supply Co.
The Southwestern Serum Co.	The Gregory Laboratory, Inc.
Allied Laboratories, Inc.	Jensen-Salsbery Laboratories, Inc.
Blue Cross Serum Co.	Liberty Laboratories



HOW... the progressive veterinarian can **SAVE** by **SPENDING**

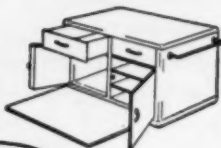
Before you buy or trade another car, station wagon or pick-up truck, consider the practical advantages in owning a Mobile Clinic specially designed for the profession.

Through proper planning in the selection of equipment, the progressive veterinarian can provide a higher quality of service with improved client relations and enhanced professional prestige.

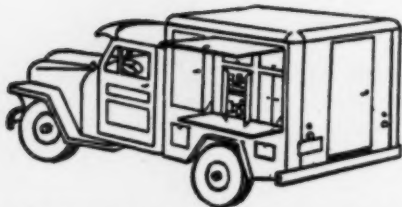
A wise investment in capital equipment today can result in substantial savings and increased earnings tomorrow.

3 MODELS NOW AVAILABLE

MODEL PD. Portable dispensary to carry in station wagon, sedan delivery or truck.



MODEL MSD. Mobile Service Dispensary. Designed for average veterinarian whose practice extends within 15-35 mile radius.



MODEL VJR. Complete Veterinary Service Clinic. For use in general or large animal practice where electric power, refrigeration and hot and cold water is required.

For complete details contact

MEDICAL COACHES INCORPORATED

122 EAST 42nd STREET, NEW YORK 17, N. Y.

CLASSIFIED ADVERTISEMENTS

Twenty-five words or less, \$2.50; 8 cents for each additional word. Replies sent in care of the JOURNAL, 25 cents extra.

Remittance must accompany order.

Deadline for want ads 8th of month preceding date of issue.

Names of classified advertisers using key letters can not be supplied. Address your reply to the key letters, c/o JOURNAL of the AVMA, 600 S. Michigan Ave., Chicago 5, Ill., and it will be transmitted to the advertiser.

Wanted—Veterinarians

Veterinarian wanted for large animal practice—mostly dairy work for livestock concern in Arizona. Excellent opportunity for young graduate or older veterinarian who desires limited work. Address "Box B 3," c/o JOURNAL of the AVMA.

Experienced veterinarian wanted for mixed practice in Chicago area. Salary \$6,000 per year plus percentage of net, with right to buy into partnership. Address "Box B 8," c/o JOURNAL of the AVMA.

Remittance must accompany advertisement

Veterinarian wanted as assistant in small animal hospital in resort area of New Jersey. Three-room apartment if desired. Must be willing to accept responsibility. Address "Box B 11," c/o JOURNAL of the AVMA.

Station veterinarian required by veterinary research unit. Fields include antibiotic, steroid, and vitamins, working with all species. Research approach essential. Clinical experience desirable. In reply please give details of background, any specialization, and salary range desired. Address "Box B 18," c/o JOURNAL of the AVMA.

Veterinarian with experience wanted to start immediately as assistant—mostly small animals. Practice 45 miles from New York City. Permanent position leading to percentage or partnership. Address "Box B 19," c/o JOURNAL of the AVMA.

Ralston Purina Company has an opening for a veterinarian, aged 24 to 35, to work in Animal Pathology Division. Major part of work is in the field of poultry pathology. Laboratory work with moderate amount of travel in connection with field investigations and problems. Good opportunity; headquarters in St. Louis. Write complete details. Address A. W. Moise, Ralston Purina Co., St. Louis 2, Mo.

Recent graduate wanted for responsible position in small animal charity clinic of solidly established humane society. Must qualify for Illinois license. Send full particulars including salary expected. Address The Anti-Cruelty Society, 157 W. Grand Ave., Chicago 10, Ill.

(Continued on p. 46)

It's DINNERTIME

FOR
22,500,000
DOGS!



... Yes, there are about 22,500,000 dogs in the United States today. And about 75% of these dogs are fed some kind of commercial dog food.

However, not only does the *amount* of commercial dog food fed each dog vary day by day, but this food often varies in degree of nourishment, palatability and assimilability. In individual brands, these factors may vary even from feeding to feeding.

It seems to us that the question of a better standard of nourishment for America's canine millions should concern dog-food manufacturers as seriously as it does veterinarians.

Here, at Gaines—in our plant, laboratories and research kennels—there is a continuous program of quality control, testing and improvement—research to maintain what we be-

lieve to be the highest standards possible in a modern dog food. The result is...

Homogenized Gaines Meal

A special Gaines process has combined ingredients of the Gaines formula into appetizing granules. These granules contain uniform amounts of every food element dogs are known to need... and are more assimilable, more palatable, far easier to feed! This uniformity is guaranteed in every package, every feeding, every *mouthful*!

Gaines Homogenized Meal is our answer to the need for a higher standard of dog nutrition. It is the answer of many veterinarians whose recommendations have helped make Gaines America's *largest-selling* dog meal.

We hope it is your answer, too!

Gaines

A Product of General Foods

HOMOGENIZED DOG MEAL

"Nourishes EVERY INCH of a Dog"

For cattle, swine, horses...

Formula HA

Vitamin Supplement

INGREDIENTS

Vitamin A Acetate (65 Mg. per lb.), Cod Liver Oil with added Vitamin A & D Concentrate, 1.60% Vitamin B-12 and Antibiotic Feed Supplement, .80% Wheat Germ Oil, Dried Buttermilk, Wheat Germ Meal, Cane Molasses, Dehydrated Alfalfa Meal, Animal Liver & Glandular Meal, Dextrose, Soybean Meal, .0002% Riboflavin, .055% Niacin, 2.15% Irradiated Dried Yeast, .0004% Thiamin Chloride, .0028% Ascorbic Acid, .011% Choline Chloride, .0002% Calcium Pantothenate, Fish Meal, Fish Solubles, Linseed Meal, Corn Germ Meal, Oat Groats, Dicalcium Phosphate, .5% Oxide of Iron, .083% Potassium Iodide, 1.75% Manganese Sulphate, .016% Zinc Sulphate, .025% Iron Gluconate, .137% Calcium Gluconate, .017% Copper Gluconate, .030% Manganese Gluconate, .005% Cobalt Carbonate.

Guaranteed Analysis	Per Cent
CRUDE PROTEIN, NOT LESS THAN.....	21.50%
CRUDE FAT, NOT LESS THAN.....	3.15%
CRUDE FIBRE, NOT MORE THAN.....	4.50%
CALCIUM, NOT LESS THAN.....	5.60%
CALCIUM, NOT MORE THAN.....	7.00%
PHOSPHORUS, NOT LESS THAN.....	2.60%
IODINE, NOT LESS THAN.....	.0637%

May be ordered from the following
Veterinary Supply Houses

- F. E. Lentz Co.
Philadelphia, Pa.
- Wisconsin Biological Supply Co.
Madison, Wisconsin
- Northland Veterinary Supply Co.
St. Paul, Minnesota
- Miller Veterinary Supply Co.
Fort Worth, Texas
- Detroit Veterinary Supply Co.
Detroit, Michigan
- Holmes Veterinary Supply Co.
Springfield, Illinois
- The Albany Serum Co.
Albany, Georgia
- Grain Belt Supply Co.
Omaha, Nebraska

Sold to veterinarians only

Formula HA is a product of Ultra-Life
Laboratories, Inc., East St. Louis, Illinois

(CLASSIFIED ADS—continued from p. 64)

Wanted—Positions

Experienced small animal practitioner available for relief work while you are on vacation this summer. Licensed in Ohio and Michigan. Address "Box B 2," c/o JOURNAL of the AVMA.

Position wanted in small animal or general practice. Licensed in Georgia and Alabama. Graduated from API, 1952; married. Address "Box B 9," c/o JOURNAL of the AVMA.

Graduate of AVMA-approved school, with three years' experience in practice, desires full or part time position on staff of animal hospital near accredited university. Address "Box B 22," c/o JOURNAL of the AVMA.

European veterinarian presently employed BAI desires position as assistant or manager in small animal hospital. New York, New Jersey, Connecticut, Massachusetts preferred. Married; age 29. Address "Box B 27," c/o JOURNAL of the AVMA.

German veterinarian, age 30, single, desires position as assistant. Specialist for small animals. Graduated from Munich University, speaks English. Will pay own passage. Address Dr. Albert Winderl, Munich 58, Brodstr 7, Germany.

Wanted—Practices

Want to buy or lease small animal hospital in

(Continued on p. 48)

CATS and kittens

Train themselves naturally
with KITTY LITTER



— a specially processed material which takes the place of messy sand and requires less frequent replacement.

ABSORBS
DEODORIZES

It is clean, sanitary, disposable... easy to use, economical... harmless to pets. A 5-lb. package lasts several weeks. Sold and used by leading veterinarians and cat owners everywhere.

ASK FOR NAME OF
NEAREST JOBBER.

Free Literature on Request

LOWE & LOWE COMPANY

Dept. 710

Cassopolis, Mich.

IT'S A REAL

'TAIL WAGGER'



Here's a quality dog food Veterinarians can feed and recommend with full confidence. It's outstanding because:

- Contains Vitamin B-12 and Antibiotics for Fast Growth and Top Dog Nutrition.
- Dogs Go For Amazing New "Sniff" Factor With Extra Taste and Nose Appeal.
- Contains Extra B-Complex Vitamins For Keen Condition, Better Coats, Brighter Eyes, More Stamina.
- Fat Stepped Up To 7% For More Energy, Higher Palatability, and Feeding Economy.
- Abundantly Supplies Animal Protein through High Levels of Meat and Liver Meal.

FEED IT — THEN RECOMMEND IT!

WAYNE DOG FOOD

Allied Mills, Inc., Kennel Food Division, Fort Wayne 1, Indiana

HILL'S
Prescription
Diets

Five
Special Formulae

EFFECTIVE WHEN NUTRITIONAL
THERAPY IS INDICATED

1. **p/d** for Reproduction and Lactation
2. **r/d** for Obesity Correction
3. **i/d** for Intestinal Disorders
4. **k/d** for Nephritic Conditions
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DISPENSED
ONLY BY
GRADUATE
VETERINARIANS

WRITE FOR INFORMATION ON
THERAPEUTIC FEEDING

(Inquiry form for graduate veterinarians only)
HILL PACKING COMPANY, Box 148, Topeka, Kan.
Send information on therapeutic feeding ☐
Send information on other Hill products ☐

NAME _____

ADDRESS _____

HILL PACKING COMPANY

P.O. Box 148 Topeka, Kans.

(CLASSIFIED ADS—continued from p. 46)

Ohio or Michigan. State gross and selling price in first letter. Address "Box B 1," c/o JOURNAL of the AVMA.

Want to buy a thriving small animal practice in a rural or semi-rural setting in the Middlewest, or West. Give full particulars, including photograph, in first letter. Address "Box B 6," c/o JOURNAL of the AVMA.

Want to buy, or lease with option to buy, small animal practice in greater Philadelphia or Camden areas. Address "Box A 5," c/o JOURNAL of the AVMA.

Veterinarian with five years of small animal experience wishes to lease, with option to buy, small animal hospital, preferably in the Middlewest or South. Address "Box B 14," c/o JOURNAL of the AVMA.

Purchase, lease, or partnership of veterinary practice wanted in Pacific Northwest. Address "Box B 16," c/o JOURNAL of the AVMA.

Veterinarian, age 35, eight years' experience in mixed practice, two years Army veterinary corps, desires permanent location in Washington or Oregon. Will consider purchase, lease, or partnership. Address "Box B 21," c/o JOURNAL of the AVMA.

Want large animal practice. Will purchase or accept position leading to purchase or partnership. Prefer Middlewest or West but will consider any area. Address "Box B 25," c/o JOURNAL of the AVMA.

Experienced veterinarian will leave army in early August and desires to purchase a good suburban small animal practice or to associate with owner of an extensive mixed practice and conduct the small animal activities. Address Douglas S. Darlington, D.V.M., Medical Laboratories, Army Chemical Center, Edgewood, Md.

For Rent—Practices

An established animal hospital for rent. Profitable opportunity for young beginner. \$85 a month includes living quarters; immediate possession. Address "Box B 4," c/o JOURNAL of the AVMA.

(Continued on p. 56)

try

BOVIDOTE

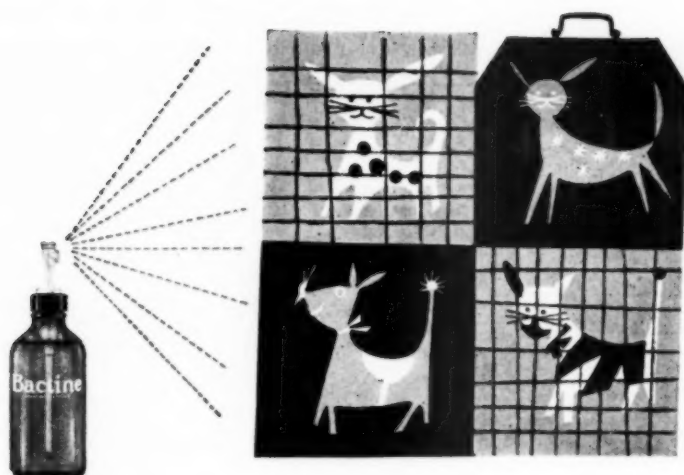
**Laxative, antacid, alimentary
detoxicant for ruminants**

CURTS

Laboratories

Pharmaceutical Manufacturers to the
Veterinary Profession—Since 1910

KANSAS CITY, KANSAS



spray odors away

in cages
kennels
treatment rooms
waiting rooms
with

Bactine®
BRAND

germicide • fungicide • deodorizer

- ...destroys odors, does not merely mask them
- ...deodorization begins immediately, lasts up to 48 hours
- ...superior safety—does not contain iodine, mercury, phenol



Use Bactine as a topical germicide:

fungus infections • cuts • burns •
abrasions • obstetrical preparation •
wet dressings • skin irritations •
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for injections.

Use Bactine for disinfecting:

hands • instruments • thermometers •
treatment tables • syringes •
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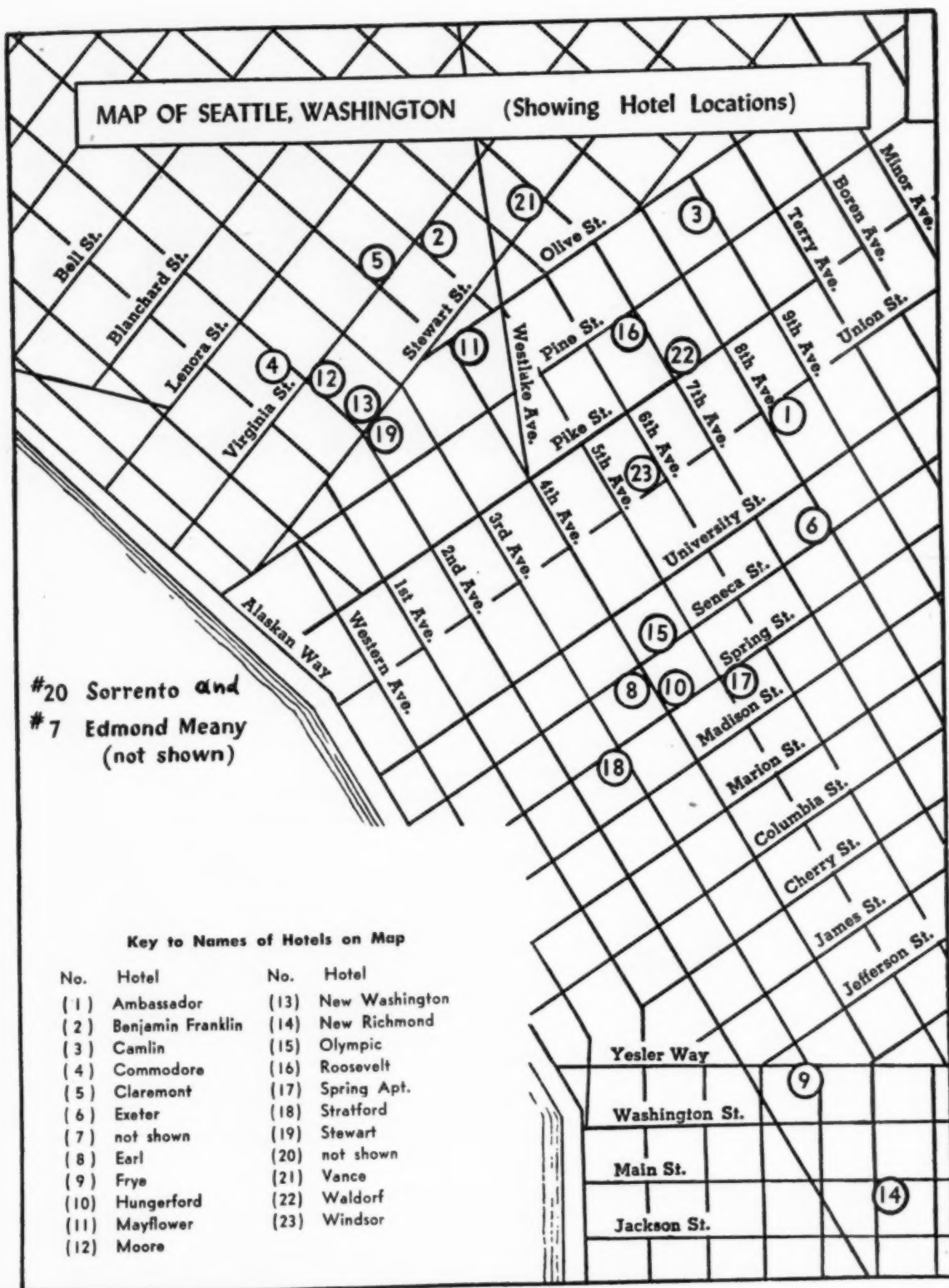
Bactine: Available in 1-gallon, 1-pint and 6-ounce
bottles through your regular supplier or we will
assist you in ordering.

Write for further information and your free supply.

MILES LABORATORIES, INC • ELKHART, INDIANA

CB784

MAP OF SEATTLE, WASHINGTON (Showing Hotel Locations)



HOTEL RESERVATIONS — SEATTLE CONVENTION

Ninety-First Annual AVMA Meeting, Aug. 23-26, 1954

All requests for hotel accommodations will be handled by a Housing Bureau in cooperation with the Committee on Local Arrangements. The Bureau will clear all requests and confirm reservations.

HOTELS AND RATES

HOTEL	SINGLE	DOUBLE	TWIN BEDS
1. Ambassador	\$5.00	\$6.00	
2. Benjamin Franklin	\$7.00	\$10.00-11.00	\$11.00-15.00
3. Camlin	\$7.50	\$10.00	\$12.00
4. Commodore	\$4.50	\$6.00	
5. Claremont	\$4.50	\$5.50-10.00	
6. Exeter	\$5.50	\$7.50	\$9.00
7. Edmond Meany	\$6.00	\$8.00-9.50	
8. Earl	\$4.50	\$6.00	\$7.00
9. Frye	\$4.00	\$6.00	\$7.50
10. Hungerford	\$5.00-6.00	\$7.00-9.00	
11. Mayflower	\$7.00	\$10.00-11.00	\$12.00-14.00
12. Moore	\$5.00	\$7.00	\$8.00
13. New Washington	\$5.50-12.00	\$8.50-14.00	\$9.50-16.00
14. New Richmond	\$3.50-4.00	\$5.00-5.50	\$6.50
15. Olympic	\$6.00-15.00	\$8.00-15.00	\$9.50-15.00
16. Roosevelt	\$6.00	\$8.00	\$10.00
17. Spring Apt.	\$5.00	\$7.00	\$8.00-9.00
18. Stratford	\$5.00	\$7.00	
19. Stewart	\$5.50-7.50	\$6.50-8.50	\$9.50
20. Sorrento			\$6.00-8.00
21. Vance	\$5.75	\$5.50-6.75-7.50	\$7.50-8.00
22. Waldorf	\$2.50-3.50(*)	\$3.50-5.00(*)	\$7.50
	\$5.00	\$6.50	
23. Windsor	\$6.00	\$8.00	\$9.00

(*) without bath. Tear Here

HOTEL RESERVATION FORM — AVMA CONVENTION — SEATTLE

To: Housing Bureau, Seattle Hotel Association,
315 Seneca Street, Seattle, Washington

Date

Please make reservations indicated below:

(Three Choices MUST Be Shown)

First choice hotel

Second choice hotel

Third choice hotel

Accommodations and Rates Per Day Desired:

- ☐ Single room at \$.....
- ☐ Double-bed room at \$.....
- ☐ Twin-bed room at \$.....
- ☐ Suite* at \$.....

(*) Those desiring suites should clearly specify type of accommodations wanted.

Arriving on (date) at a.m. p.m.

Leaving on (date) at a.m. p.m.

Room will be occupied by (attach list of additional names if necessary).

Name City and State or Province

Name City and State or Province

Your Name (Print or Type)

Street Address City and State or Province

Correspondence

May 10, 1954

Editor:

I have been erroneously quoted in the May, 1954, issue of the JOURNAL, page 386. To the best of my knowledge there is no 15-mg. capsule of aureomycin and I do not advocate the medication of shell parakeets with capsules or tablets.

My statement was that a 50-mg. capsule may be opened into the bird's drinking water. If only a single bird is to be medicated, use an ointment containing 60 mg. of aureomycin hydrochloride per gram. A small amount of the ointment is expressed into the bird's beak two or three times daily.

Very truly yours,
s/Alan Bachrach, V.M.D.
Philadelphia, Pa.

Honorary Membership Appreciated

The following letters have been received from the three honorary members elected at the 1953 annual meeting of the AVMA (see pp. 476 and 578, 1953 "Proceedings Book").

May 4, 1954

Dr. J. G. Hardenbergh, Executive Secretary:

Your letter of April 21 and the certificate of honorary membership in your Association were both received May 4. I am very proud of this certificate since it comes as I retire from active duty June 30, 1954, and will return to the States to live with my son at least in a temporary manner, at 127 Arlo Road, Staten Island, N. Y.

I hope to move about in Michigan, Indiana, and Pennsylvania before I drop anchor in a permanent manner.

Again I want to express my great appreciation of the honor conferred on me.

Cordially yours,

s/Herbert C. Clark, Director
Gorgas Memorial Laboratory
Gorgas Memorial Institute of Tropical and
Preventive Medicine, Inc., Panama, R. de P.

• • •

May 6, 1954

Dr. J. G. Hardenbergh, Executive Secretary:

I herewith acknowledge the receipt of your letter

(Continued on p. 54)



NEW IMPROVED RANCH RECORD VETERINARY SYRINGE

The Ranch Syringe was improved lately with a new two piece top cap. The plunger can be removed for sterilization without removing the glass barrel from the metal frame. This improvement makes it easier to sterilize and eliminates breakage. Smooth operation and accurate dosage is assured at all times.

The Ranch Syringe is made with finger bars or three rings.

Inquire at your nearest veterinary dealer or wholesaler about this new improved outstanding product.

Sizes 2cc. to 40cc.

Literature Upon Request

**Boston Instrument Mfg. Co. Inc.,
50 Thayer St., Boston 18, Mass.**

Continuous Intensive **BASIC RESEARCH** to serve the **VETERINARY PROFESSION**

Your needs for competently investigated, reliably reported, and honestly advertised products are met by our organization. Extensive facilities ranging from experimental farms to complex radioisotope laboratories are at the disposal of our veterinary group.

Note these CSC Research Products

PARENTRACIN Intramuscular high potency bacitracin for hemorrhagic septicemia, etc. In rubber-stoppered vials, 10,000 units and 60,000 units per vial.

EXPANDEX® The plasma volume expander ready for instant use; a sterile, nonpyrogenic, 6% (w/v) solution of dextran in isotonic salt solution; cannot transmit canine hepatitis, etc. For shock from trauma, hemorrhage, burns, or surgery. Requires no dilution or special preparation; stable at room temperatures. In 150 cc. vials.

to help your farmers **RAISE MORE and HEALTHIER PIGS!**

Make use of this **FREE Film Service**

A 16 mm. color sound film is available for you. It traces the search for a method of supplying antibiotic to baby pigs early in life—before antibiotic creep feed is consumed—during the critical period when half of the industry's death losses are sustained.

BACIGRO for healthier, heavier pigs—fewer death losses—fewer worthless runts. Protects baby pigs till they eat enough antibiotic creep feed. In boxes of 24 and 100 pellets, each individually wrapped in foil.

Shows the successful method—subcutaneous implantation of a pure bacitracin pellet.

The benefits—livability, disease prophylaxis, litter uniformity—are demonstrated. Running time, 13 minutes.

Write to Veterinary Dept.



advising me that I had been voted an honorary membership in your Association.

This is an unexpected, most sincerely appreciated honor. I thank you.

Respectfully yours,

s/Peter F. Bahnsen,
Sagamore Lodge,
Americus, Ga.

• • •

May 20, 1954

Dear Dr. Hardenbergh:

I wish to thank the Executive Board of the AVMA for making me a Life Member. This note of appreciation is somewhat tardy but I always have that word, "procrastination", to fall back on as an excuse.

Very sincerely yours,

s/C. M. Pollard
Jacksonville, Fla.



Send for FREE 36-page Treatise on
CARROT OIL VITAMINS

Details the advantages of carrot oil vitamins when used in feeds to improve breeding results; to destroy oxidized milk flavors; and to promote general good health and glossy coats. Contains much information. Replete with data and references. Send for it today

NUTRITIONAL RESEARCH ASSOCIATES
Dept. 251-M, South Whitley, Indiana

Meat Consumption in the United States

Federal economists estimate that beef consumption per capita this year will total 74 lb., pork 61 lb., veal 9.7 lb., lamb and mutton 4 lb., for a total of 149 lb., compared to 153 lb. in 1953 and 144 lb. in 1952. In 1953, for the first time in history, less pork than beef was consumed.—*Weekly Livestock J.*, March 4, 1954.

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Clip your animals the fast, easy way with the new Sunbeam Stewart electric Clipmaster. Has quiet, powerful, air-cooled, ball-bearing motor inside the cool Easy-Grip handle. Anti-friction tension control assures perfect tension between blades, provides easy adjustment. \$39.95 (Colorado and West \$40.25).

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Sunbeam CORPORATION
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(CLASSIFIED ADS—continued from p. 48)

Small animal hospital for rent; includes rooms for reception, operating and treatment, and cages, full basement, oil heat, ample parking. Owner deceased. Address Mrs. Ova Patterson, 1035 S. Arlington Avenue, Indianapolis, Ind., telephone IR 1083.

For Sale or Lease—Practices

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Thriving small animal practice for sale in middle- and upper-class area, suburban Philadelphia. Ideal location on important highway. Fine hospital, boarding or breeding kennels; 62-animal capacity; concrete runs, cyclone fenced. Excellent house for owner or attendant, all modern improvements, 6 rooms, office, garage. \$30,000; owner will help finance. Address Ball and Coffin, agents, Jenkintown, Pa.

Mixed veterinary practice for sale. Lucrative and interesting, with exclusive clientele where there is need for a capable and energetic young veterinarian.

(Continued on p. 58)

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IMPROVED 7-CAGE DE LUXE DRAIN UNIT

The small size is 7½ feet long with 3-30" cages in bottom and the large unit 9 feet long with 3-36" cages in bottom.

Also available in removable tray style, or plain flat floor style without gutter drains.

Our units are available in 3, 5, 7 or 12 cage units, or any combination you need.

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Our improved dog dryer with entirely transparent doors and larger blower is proving most satisfactory to our numerous users. Many have recommended them to their friends saying "it's doing a wonderful job."

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Manufacturing, Inc.
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NICHOLSON

precision veterinary equipment

(CLASSIFIED ADS—continued from p. 56)

House and completely equipped 23-cage small animal hospital and individual runs. Located in the beautiful resort area of Sullivan County in southeastern New York. Easy terms. Address "Box M 4," c/o JOURNAL of the AVMA.

Established mixed practice for sale in good dairy section of western New York. Will sell for value of real estate plus inventory of equipment and drugs wanted. Excellent terms. Only reason for selling—health factor. Address "Box V 13," c/o JOURNAL of the AVMA.

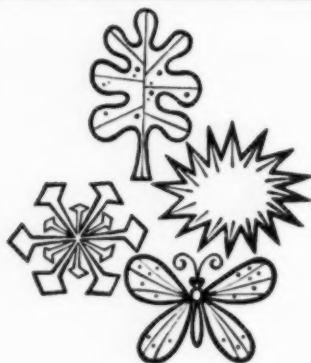
Animal hospital for sale in Southwest; population, 5,000. Practice grossed \$10,000 last year; owner will sell for price of inventory, about \$1,000. Address "Box A 6," c/o JOURNAL of the AVMA.

Small animal hospital near Los Angeles, for sale. No real estate; 40-animal capacity. Gross \$26,000; \$12,500 cash or \$15,500 terms with \$5,000 minimum down. Address "Box W 17," c/o JOURNAL of the AVMA.

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Exceptionally diversified general practice for sale;

(Continued on p. 60)



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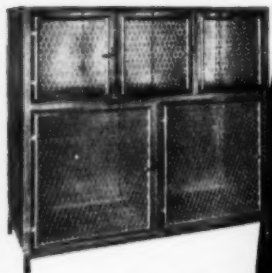
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located in the county seat of one of the best agricultural areas in Iowa. Average gross for past five years, \$30,000. Eight-room house, seven years old, and adjoining office and laboratory. Two-way radio equipped. Will sell for appraised value of real estate plus inventory of drugs and equipment. Easy terms. Address "Box B 7," c/o JOURNAL of the AVMA.

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Extensive mixed practice for sale in Middlewest. Well-equipped small animal hospital; adjacent residence. Well located. Present owner retiring. Address "Box B 12," c/o JOURNAL of the AVMA.

Large established practice of recently deceased veterinarian for sale in Syracuse, N.Y. Dog and cat practice; completely equipped hospital; excellent location; immediate possession. Write Saul Kauffman, attorney, 438 Empire Bldg., Syracuse, N.Y.

Long established small animal practice for sale in downtown Brooklyn; includes drugs and equipment. Address "Box B 13," c/o JOURNAL of the AVMA.

A thriving small animal practice for sale; established over 30 years. Only animal hospital in

(Continued on p. 62)

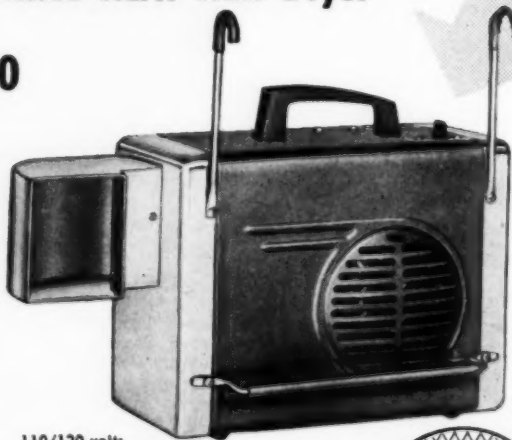
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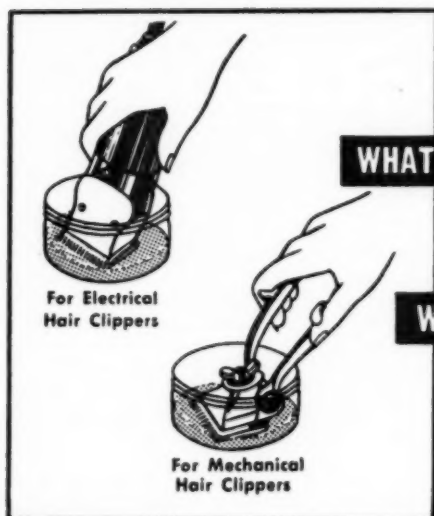


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(CLASSIFIED ADS—continued from p. 60)

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Capacious small animal hospital for sale or lease; fireproof, modern, 50 outside runs. Fast growing

(Continued on p. 63)

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...for Beta Ray Therapy

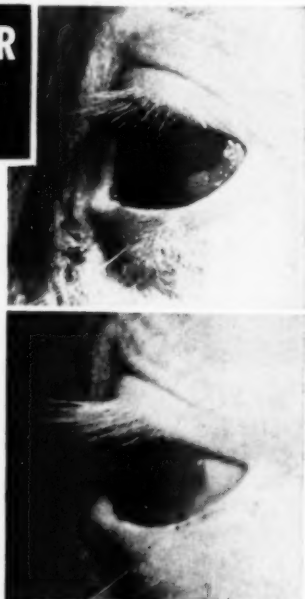
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* Beta Ray Therapy in Ocular Diseases of Animals, Catcott, et al; Journal A.V.M.A., March, 1953; p. 172-175.



Photos - Jnl. A.V.M.A., March '53

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(Continued on p. 64)

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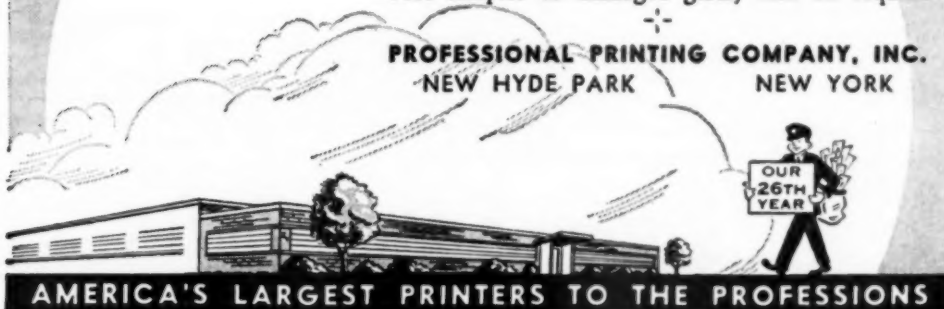
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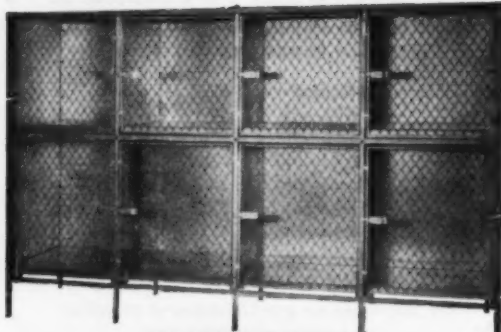
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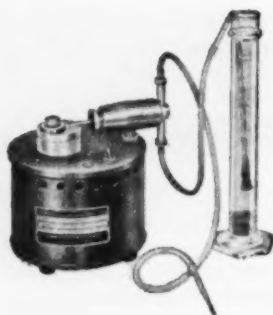
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(CLASSIFIED ADS—continued from p. 63)

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6 lb. bag	38c per lb.
4-6 lb. bags	33c per lb.
8-6 lb. bags	30c per lb.

METHOXYCHLOR 50% WETTABLE "MARLATE" 50 (DuPont)

4 lb. bag	78c per lb.
6-4 lb. bags	74c per lb.
12-4 lb. bags	70c per lb.

DDT 50% WETTABLE POWDER

1 lb. bag (12 per case)	45c per lb.
10 lb. drum	38c per lb.
25 lb. drum	36c per lb.

DDT TECHNICAL POWDER

for preparing oil spray solutions

1 lb. can (12 per case)	60c per lb.
10 lb. drum	55c per lb.

SODIUM FLUORIDE TINTED

5 lb. drum	48c per lb.
25 lb. drum	37c per lb.

SULFONAMIDES

SULFANILAMIDE USP POWDER

1 lb. bottle	\$1.90 per lb.
10 lb. drum	1.85 per lb.
25 lb. drum	1.75 per lb.
100 lb. drum	1.60 per lb.

SULFATHIAZOLE SODIUM USP POWDER

1 lb. bottle	\$4.75 per lb.
5 lb. bottle	4.70 per lb.

SULFAPYRIDINE SODIUM POWDER

1 lb. bottle	\$10.00 per lb.
5 lb. bottle	9.75 per lb.

Write for Complete Price List

Terms 1% 10 days net 30 F.O.B. Chicago

Freight Allowed on Shipments of 100 Lbs. or More
Rocky Mountain and Pacific Coast Prices Slightly Higher

Prices Subject to Change Without Notice

AMERICAN CHEMICAL CO.

1112 West 37th Street, Chicago 9, Illinois



**HAVOSEPT
is CLEANSING**

**HAVOSEPT
DEODORIZES**

**HAVOSEPT is
GERMICIDAL**

**HAVOSEPT is
LUBRICATING**

HAVOSEPT

Will do the job!

Havosept is a free-flowing antiseptic detergent with deodorizing and lubricating qualities. It reduces friction against mucous surfaces and supplies bacteriostatic protection for both patient and operator. Its detergent and antiseptic action makes it an excellent product for pre-operative scrubbing, particularly for farm animals. A little Havosept goes a long way . . . it is economical and useful as a practice item.

Supplied in Carton dozen 8 oz. shaker-top bottles and in gallons.

HAVER-GLOVER LABORATORIES KANSAS CITY, MO.

INTRADERMAL VACCINES

for protection against

DISTEMPER HEPATITIS

1. A NEW Bivalent Vaccine

Canine Distemper Vaccine and Infectious Canine Hepatitis Vaccine

A completely safe and effective method of immunizing dogs against the two most important diseases.

A 2 cc Intradermal dose given in two or more sites may be used on puppies after weaning as the first dose of killed vaccine in a distemper immunizing plan, to be followed by one or two doses of Intradermal Canine Distemper Vaccine. The hepatitis factor in the first dose will produce a satisfactory immunity to that disease — or the vaccine can be used in all of two or three doses to enhance immunity to both infections.

Packaged:	1—2 cc vial	\$ 1.50
	10—2 cc vials	15.00

2. INTRADERMAL Infectious Canine Hepatitis Vaccine

The extreme prevalence of infectious hepatitis in dogs and the high efficiency of Intradermal Infectious Canine Hepatitis Vaccine has increased the desirability of preimmunization of as many young dogs as possible. So that immunization may not be priced beyond the reach of the average dog owner, the price of the vaccine has been reduced to \$1.00 per dose.

3. INTRADERMAL Canine Distemper Vaccine

The old reliable and standby of many: Efficient — Safe — Professional — and at the same price — \$1.00 per dose.

ASHE LOCKHART, INC.

Producers of Better Biologicals for Graduate Veterinarians

800 Woodswether Rd.

Kansas City, Missouri



an open letter to a veterinarian who hasn't yet tried modified live virus hog cholera vaccines

Dear Doctor: For several years, veterinarians have been cautiously testing and evaluating various modified live virus hog cholera vaccines. During this period, Jen-Sal research men were also studying new vaccines—their advantages, disadvantages, and future possibilities.

Now, based on years of conservative, careful evaluation, Jen-Sal is marketing a modified live virus, hog cholera vaccine of porcine origin (to be administered simultaneously with 15 cc. hog cholera serum.) Jen-Sal feels that this product is the safest most logical successor to time-tested serum-virus immunization.

This new vaccine is named SV-2 for **SIMULTANEOUS VIRUS METHOD No. 2**. It is a proven immunological advancement—giving durable immunity without post-vaccination virus flare-ups.

SV-2 (Jen-Sal) is now available in 5, 10, and 50 dose packages. We recommend it to you with confidence. A new brochure on SV-2 is now ready—write for your copy soon.

Jensen-Salsbery Laboratories, Inc.
Kansas City, Missouri